CPF01L86
Ultra-low Transportable Cryogenic Freezer

-86°C to 4°C
Precision temperature control ± 0.5°C
Internal volume 1L
Built-in lithium battery
NFC electronic lock
VIP insulation panel, better insulation effect
IoT (Internet of Things), full control and trace

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The ultra-low temperature mobile safe is specially designed for medical scenarios. It is small in size, light in weight, and the lowest temperature can reach -80°C. It solves the industry’s pain points in liquid nitrogen transportation and makes up for the shortage of liquid nitrogen transportation. The machine has a built-in large-capacity lithium battery, which can work for more than 1 hour without external power.

At the same time, the NFC electronic lock in connection with the IoT to ensure the safety of transported goods. The IoT supports real-time track and trace of machine and operating data, remote control of the machine and export of data, enable user to achieve full control and traceability.

**External Dimensions**

- **L270xW270xH450mm**

**Technical Specification**

- **External dimensions** L270xW270xH450mm
- **Internal dimensions** L150xW134xH54.5mm
- **Capacity** 1L
- **Weight** 13.5K
- **Maximum Power** 100W
- **Operating Voltage** 12-24V
- **Rated Power** 80W
- **Temperature Range** -80°C to 4°C
- **Built-in Battery** ≥1H (Machine running at full power)

**Internal Dimensions**

1L, internal volume, temperature control accuracy ± 0.5°C, stable low-temperature controlled mobile safe with high-precision temperature control in the range of -80°C to 4°C, used to transport biological samples such as vaccines, bacterial strains, blood, plasma, etc., for immune medical products and other goods that have extremely high temperature requirements.

**Safety guarantee**

± 0.5°C temperature control accuracy of the whole box to avoid temperature fluctuation; RFID digital lock protects your samples in all aspects (this function is optional); Equipped with WiFi digital IOT module or optional 4G L1/L3/L7 module to achieve the whole process monitoring and alarm (monthly fee is required for 4G service).

**Intelligent temperature control**

- Sampling with laboratory grade PT1000 thermal sensor, ensuring temperature accuracy;
- Temperature sampling algorithm for intelligent temperature sampling at 299 times per second;
- Intelligent programming mode, program-controlled cooling stage MOS in 90 minutes, to prevent the function, which needs to cooperate with the PCL series platform and subsequent OTA upgrade.

**Cooling System**

- Advanced Stirling technology, using Cryo 3 Series CryoStirling refrigerator as the core cooling source;
- Ultra-low temperature, fast cooling, and no risk of pump noise and vibration, maintain zero-freeze 95 hours up to 70,000 hours.

**Product Performance**

- Ambient Temperature: 25°C
- Used Contents: 40 1.8ml Test tubes
- Cooling time: 25°C to -40°C in 1020min

Put in 40 1.8ml test tube (water filled), turn on the power and temperature reaches -80°C within 120min.

- Ambient Temperature: 25°C
- Used Contents: 40 1.8ml Test tubes
- Cooling time: 25°C to -80°C in 25min

In operation state temperature is -80°C. Put in 40 1.8ml test tube (water filled) in freezer and the sample temperature reaches -80°C within 2.5min.

**Cooling System**

- Integrated high-precision foam, YP (vacuum insulation panel), double-layer reinforcement internal table water-cooling ring, ensure ultra-low thermal leakage, the lowest temperature can reach -80;
- Inside available volume is 1L, suitable for 10° 10.2ml sample test tube box;
- All metal integrated inside box, proprietary coating technology to ensure liner cleanliness, test tube accessories, so that sample temperature no longer fluctuates.
Quick View at Simple operation, friendly interface and equipment running

This feature of the double-row Chinese letter temperature refrigeration freezer is applicable to 6-pro driven board and 4.5 inch IPS resistive touch screen. Program version number can be seen on the display screen.

The applicability and operation:
Current program of the OPER Bang is applicable to 6 pro-driven board and 4.5 inch IPS resistive touch screen. Program version number can be seen on the display screen.

The interface description:
The program has designed a total of 6 (a) operation interfaces: the boot interface, the main interface, the Wi-Fi setting interface and the Wi-Fi configuration interface, user setting interface and factory setting interface. The switching between the interfaces is realized by touching the appropriate buttons or specific area of screen.

Operating procedures:
1. Boot interface display instructions: After booting, the screen displays China Stirling logo for one second.
2. Wi-Fi setting interface displays the operation instructions:
   - Display the Wi-Fi configuration options: 1. Press the Wi-Fi configuration interface; 2. Press to enter the user setting interface; 3. Press the Wi-Fi configuration interface; 4. Press to enter the user setting interface; 5. Press to enter the Wi-Fi configuration interface; 6. Press to enter the Wi-Fi configuration interface; 7. Press the Power Button to turn the machine off; 8. Screen status display.

3. WI-FI setting interface displays operation instructions:
4. Wi-Fi configuration operation instructions:
   - Black button, click to return to the previous interface; 2. Official LOTA page QR code: 1) Scan QR code; 2) Pay attention to the public number; 3) Follow the page prompts after scan; 3. Wi-Fi configuration; 4. OTA upgrade; 5. Program version number.

5. User interface operation instructions:
   - Black button, click to return to the previous interface; 2. Automatic switch button, 3. Turn on the password button, click to set the password according to personal needs, ON/OFF; 4. RFID management, NFC card management; 5. Screen off-time display: Click to set the screen display time; 6. Brightness setting display: Click to set the display brightness of the screen; 7. Unpacking times display: show the current number of times the box has been opened during use; 8. DC voltage, DC current, AC current, power, machine boost command, current temperature and set temperature, T3 hot end temperature, T2 ambient temperature, T4 cold end temperature; 9. Input display; 10. Number buttons; 11. Continuously click 6 times at bottom left corner of screen to enter factory setting interface.

IoT (Internet of things) background, escorting high-quality transportation

The ultra-low temperature mobile safe is built in battery power. The Stage-on-Wi-Fi intelligent control system equipped with anti-fall lock + electronic lock, unpacking alarm, EIT background, GPS positioning and mobile sensor to ensure the safety of items used in the freezer. At the same time, Stage-on-Wi-Fi has program-controlled cooling and open source programming capabilities. This system can be used as a research and development and experimental equipment to provide ultra-low temperature refrigeration solutions for other industries.

1. Multiple login methods: mailbox / account / mobile number / WeChat QR code login
2. Support Chinese and English languages, Baidu map, Google map switch display
3. Users can freely add devices and use device sharing functions
4. Remote real-time view of device operation status, current operation / operation records
5. Remotely control the power on / off of the device, change the target temperature of the device, set the time interval for device data upload, real-time GPS positioning and tracking, etc.
6. The IoT platform supports computer/mobile phone access, both of which can be used for information viewing and remote control.