

***GPT100***

**Portable gas leak detector**

**Operation manual**

Ver: HWWM161229CG

*Read this manual carefully before using the device*

## Safety information

Before using this product, please read the following safety information carefully.

- Please don't use defective detector. Before using, please check if there is crack or spare part missing. If yes, please contact to the seller.
- Impact test is suggested once every day. If the display figure is beyond the range, please calibrate the device.
- Please charge the device by using the original charger attached to the device. It's forbidden to charge it in the dangerous environment.
- Please don't expose the device to the gas environment which concentration is beyond the detecting range. Otherwise, it will influence the accuracy and shorten the sensor's life.
- Please don't expose it to the compounds of lead, sulfur nor phosphorus. Otherwise, the sensor will be poisoned.
- Please don't expose the device to the corrosive gas. Otherwise, it will lower the sensor sensitivity. If have to, please carry out the Impact Test after using to check if it still works normally.
- Please don't expose the device to electric shock, strong magnetic field or serious continuous mechanic shocking.
- Lithium battery is installed inside the device. Please don't put the useless battery together with the other rubbish. The useless battery should be handled by the qualified persons.
- It's forbidden to disassemble, adjust or repair the device privately.
- Please don't drop or shake it.
- The device is not water-proof, please avoid from water otherwise it will be damaged.

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# 1. Brief introduction

GPT100 portable gas detector, with high accuracy, is designed to check the gas leakage of the gas pipelines, gas shut off valve and other gas related equipment. The housing of the detector is made of high strength engineering plastics and compound anti-slip rubber. With imported high quality semi-conductor sensor and embedded microcontroller, it has very high sensitivity, excellent man-machine operation interface and stability.

## **Main features:**

High resolution STN screen display

Flexible gooseneck

All function self-test

Low battery alert

Sensor self - test

Fast response

# 2. Specification

Sensor type: Semi-conductor

Target gas: Combustible gas

Range: CH<sub>4</sub>:0-10000ppm, 0-20000ppm, 0-30000ppm

C<sub>3</sub>H<sub>8</sub>: 0-10000ppm, 0-20000ppm

Gas sampling: Diffuse naturally

Response time: ≤5s

Ingress Protection: IP54

Working condition: Temperature -30°C ~ 60°C Humidity ≤95%RH

Storage condition: Temperature -40°C ~ 60°C Humidity ≤95%RH

Alarm method: LCD progress bar and digital indication, variable pitch and rhythm indication.

Power source: DC3.7V 2200mAh Lithium battery

Charging time: 4-6 hours

Continuously work time after full charging: more than 8 hours.

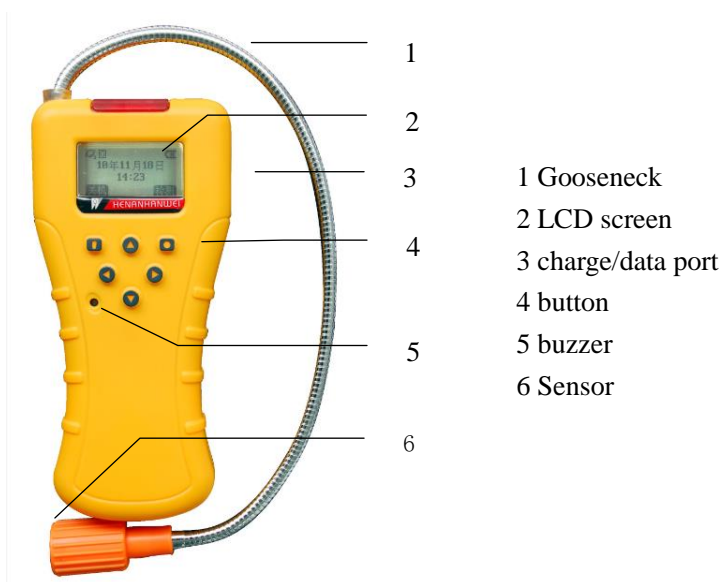
Sensor life: about 2 years

Dimension: 170mm×77mm×33mm






Weight: about 300g (including battery)

### 3. Structure and function










#### 3.1 Appearance



### 3.2 Icon indication


	Charging completed		Low voltage
	Full voltage		Power is running out, require charge
	Power is finished, device will be power off automatically in 30s.		

### 3.3 Button function



button	function
	<ol style="list-style-type: none"> <li>1. Power on or off by pressing  for more than 1s</li> <li>2. In power off situation, press  and  to enter calibration interface</li> <li>3. Function for menu</li> </ol>
	<ol style="list-style-type: none"> <li>1. On/off for backlight</li> <li>2. Choose upside</li> </ol>
	Choose downside
	Increase the value
	<ol style="list-style-type: none"> <li>1. Auto zero</li> <li>2. Decrease the value</li> </ol>
	Function for menu

## 4. Operation

### 4.1 Power on

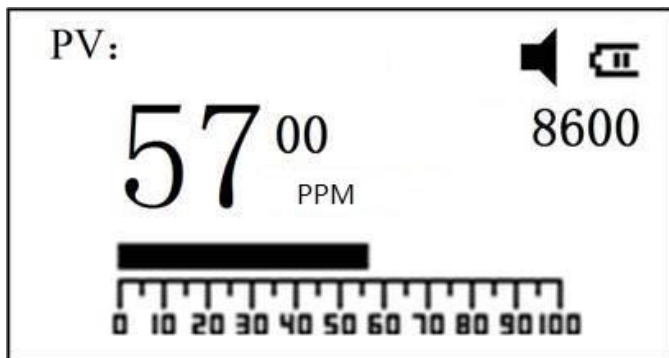
In power off situation, press  for more than 1s, the device will start power on interface, the LCD display will show device's model number and its programme version, then begin system self-check. After that, device will start counting down for warm up, if sensor finish auto zero within 5s, it will show calibration information and then enter into normal working status. If auto zero not finished in 5s due to sensor fault or sensor haven't been used for long time, please keep waiting.

### 4.2 Power off

In normal working status, press  and hold it, screen will show confirmation require for power off, then press  for confirm.


### 4.3 Detect

After power on and enter into normal working status, the LCD screen will show as below picture:






In this interface, the black progress bar represent for the gas level compared to the full range, PV is the value of the progress bar. For example, in the above picture, total reading is 5700ppm. PV is “57”, “00” is the current coefficient of the reading, “PPM” is the detecting unit. The figure below the battery icon “8600” is the maximum reading since the latest power on.


## 4.4 On/Off backlight

Press  to switch on/off the backlight of the LCD screen.

## 4.5 On/Off sound

Press  to switch on/off the sound of the device. There are also indication icon for the sound in the screen, “” means sound on, “” means mute.



## 4.6 Choose unit

In normal working status, press  to choose unit to be PPM, %VOL or %LEL.

## 5. Calibration

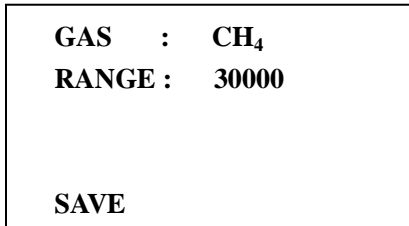
In order to keep the accuracy and reliability of the device, it is suggested to calibrate the device every 6 months, and the calibration must be carried out by professional engineers with standard gas. Calibrating privately is highly prohibited.

Calibration procedure:

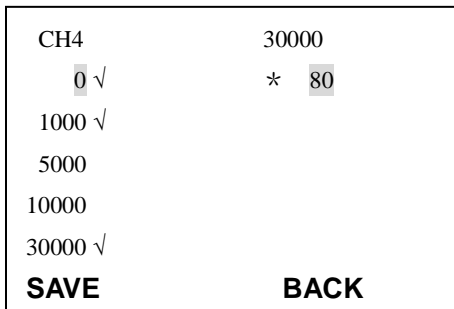
- 1) Press  and  to power on the device, then screen will display “DEMARCAT...” and then display “warm up...” to enter into warm up period which is around 180s, it will also have a counting down displayed.



- 2) After warm up completed, the screen will display as below picture:






- 3) Press  $\odot$  to choose the gas type, press  $\odot$  to choose the gas range, after then, press  $\odot$  to confirm and enter into next interface shown like the following picture:





**Note:** GPT100 can be calibrated at several points, and The calibration sequence is not restricted. The calibrating points where there is a mark“✓” behind must be calibrated, other calibrating point are optional points.

- 4) In calibration interface, press  $\odot$  or  $\odot$  to choose one calibrating point, then put GPT100 into standard gas environment with corresponding gas concentration, there will be a number (A/D value) displayed behind the calibrating point, wait until after the number is steady, press  $\odot$  to save the number for this calibrating point, and in front of the number, there will be a mark of “ \* ”. If there is some change of the gas environment, the number may still change and keep updating, you can again change the number by pressing  $\odot$  again, the latest number will be saved for this calibrating point.

- 5) If the number(A/D value) is too much different with the theoretical value, under the screen it will display “ERROR!”, it means calibration fail.

After all calibrating points have been calibrated successfully, press  or  to move the screen focus onto “SAVE”, then press  to confirm, at the right side under the screen will display “OK!”, all the calibrating points will be saved into the GPT100 program. After several seconds, the device will be power off automatically.


**Note:**In warm up counting down period or calibrating period, you can exit calibration by pressing  and  together and hold the two buttons for about 3 seconds, the device will cancel calibration and power off.

## 6.Charge



### Warning:

- 1) Charging must be in safe environment using original adapter.
- 2) Plug or unplug may generate electric spark, in dangerous places, it may lead to fire or explosion.
- 3) Charging the device when the device is power on may not have normal charging speed, please keep the device power off when you charge it.

When the icon of  is illuminated in the screen, it means charging completed. In the case of good light, turn off the backlight can save some battery power.

## 7.Sensor’s replacement

In normal working environment, the semi conductor sensor can work for 2 years, after that you need replace the sensor. During usage, if sensor is damaged, you also need to replace the sensor, please contact to your seller for replacement.

Sensor must be replaced by professional engineer, replacing sensor privately is prohibited.

## 8.Trouble shooting guidance

Fault	Possible reason	solution
Unable to power on or power of automatically after power on	Low battery voltage, or battery life has been finished	Charge the battery or replace the battery.
Gas level reading is not so accurate.	Gas sensor overdue	Contact to your seller
	Gas sensor need recalibration	Recalibrate the sensor or contact to your seller
	Sensor fault	Replace the sensor or contact to your seller
“Sensor fault”	Sensor is faulty	Replace the sensor or contact to your seller

