



MODEL: GM510  
GM511  
GM520

## Pressure Manometer Operation manual



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## 1. Before use

### Check up

Thanks for your purchasing our product! Please check the pack if there are following components and contact the local dealer if there is any missing in the pack or manual.

- |                               |      |
|-------------------------------|------|
| ○ Pressure manometer          | 1PCS |
| ○ 1.5V AAA battery            | 4PCS |
| ○ Operation manual            | 1PCS |
| ○ USB wire                    | 1PCS |
| ○ CD                          | 1PCS |
| ○ Translucent silica gel hose | 2PCS |
| ○ Transparent PVC hose        | 2PCS |

### Brief

There are following 11 selectable pressure units: bar, mbar, kPa, kgf/cm<sup>2</sup>, mmHg, cmH<sub>2</sub>O, Ozf/in<sup>2</sup>, psi, inHg, inH<sub>2</sub>O, ftH<sub>2</sub>O. This unit features data save and adjustment, automatic turn-off, connecting with PC to read and export the data with a USB wire.

## Features

1. Large LCD
2. Data hold
3. With differential mode and record mode
4. USB port
5. Reset and data adjustment
6. Low battery indication and automatic power off

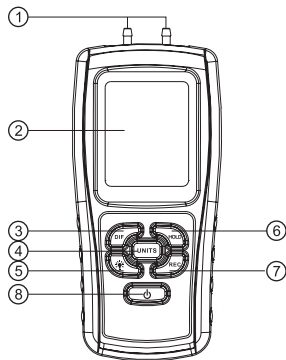
## Technical index

Measuring range	GM510/GM511: $\pm 10$ kPa; GM520: $\pm 35$ kPa
Accuracy	$\pm 0.3\%$ FSO (25°C)
Repeatability	$\pm 0.2\%$ (Maximum $\pm 0.5\%$ FSO)
Linearity/hysteresis	$\pm 0.29\%$ FSO
Response	Typical 0.5 s
Low battery indication	Yes
Up overload indication	Err1
Down overload indication	Err2
Operating temperature	0~50°C
Storage temperature	-10~60°C
Power supply	1. 5V AAA battery*4
USB communication	Yes

Model	Unit	Range	Resolution	Maximum pressure
GM510	bar	0.100	0.001	0.500
GM511		0.350		1.500
GM520	mbar	100.0	0.1	500.0
GM510		350.0		1500.0
GM511	kPa	10.00	0.01	50
GM520		35.00		150
GM510	kgf/cm	0.101	0.001	0.509
GM511		0.356		1.529
GM520	mmHg	75.0	0.1	375.0
GM510		262.5		1125.0
GM511	cmH <sub>2</sub> O	101.9	0.1	509.5
GM520		356.6		1528.5
GM510	Ozf/in	23.20	0.01	116.00
GM511		81.20		348.00
GM520	psi	1.450	0.001	7.251
GM510		5.076		21.755
GM511	inHg	2.95	0.01	14.76
GM520		10.33		44.29
GM510	inH <sub>2</sub> O	40.1	0.1	200.5
GM511		140.3		601.5
GM520	ftH <sub>2</sub> O	3.34	0.01	16.70
GM510		11.69		50.10
Environmental temperature compensation Applicable to GM511/GM520, but not to GM510				

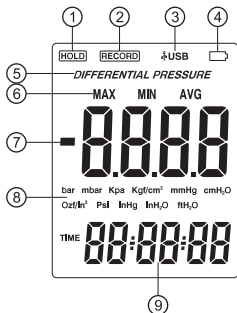
## Panel

1. Pressure input
2. LCD
3. DIF mode key
4. Unit shift key
5. Backlight key
6. HOLD key
7. Record key
8. Power key



## Display

1. Data hold function
2. Record mode
3. USB communication
4. Low battery indication
5. DIF mode
6. Minimum/maximum value
7. Main display
8. Pressure unit
9. Record time



## Application

Widely applied in measuring the pressure of fans, resistance/wind velocity/oven pressure/differential pressure of filter, and monitoring the gas content in the air in process of combustion.

## Definition of pressure

The pressure in this manual refers to the intensity of pressure, the force applied on a square unit.

absolute pressure: Difference between the reading and the absolute zero.

Positive pressure means that the right pressure is bigger than the left one.

Negative pressure means that the left pressure is bigger than the right one.

## 2. Operation

### How to operate

#### 1. Power supply

Press ON/OFF key to turn the unit on or off.

#### 2. Difference

Press the **DIF** key to display the value that is the difference between the current pressure and the pressure value when press the **DIF** key, with **DIFFERENTIAL PRESSURE** displayed on LCD.

#### 3. HOLD key

Press **HOLD** key to hold the reading on the LCD with a “**HOLD**” icon displayed on the upper left corner of LCD, press **HOLD** key again to go back to normal measuring state.

#### 4. Record key

It is available to review MAX/MIN/ AVG values under record mode.

(1) Press the **REC** key and the character “**RECORD**” shows on the LCD while all keys except ON/OFF key and backlight will be locked, and time counter works with the current time shows on LCD.

(2) Press the **REC** key again, **MAX** shows on LCD and the maximum value and its pickup time will be shown on the LCD.

(3) Press the **REC** key once again, **MIN** shows on the LCD and minimum value and its pickup time will be shown on the LCD.

(4) Press **REC** key again, an average value shows with **AVG** character.

(5) Press **REC** again to show the maximum, minimum and average value repeatedly in order.

(6) Press the **REC** key for 2 seconds to exit record mode.

#### 5. Backlight

Press the backlight key to activate it.

#### 6. Auto turn-off

If there is no any further operation on the key within 1 minute, the unit will turn off automatically. This function can be cancelled by pressing on the **HOLD** key for a while and then turn the device on until “no” appears on the LCD.

#### 7. Unit

Press the **UNIT** key to show 11 units for option.

#### 8. USB

Built-in **USB** port allows connection with PC.

#### 9. Error

If there is any mistake reading appears, it will be shown on the LCD as following:


(1) Err1: Pressure beyond positive range

(2) Err2: Pressure beyond negative range

(3) Err3: DIF difference beyond position limit

(4) Err4: DIF difference beyond negative limit

## 10. Battery replacement

“” flashes when the battery is insufficient, replace it with 4 1.5V AAA batteries.

## Reset and calibration

Before being sent out of factory, the device has been properly reset and calibrated with which consumers are not expected to operate.

### 1. Reset

Pressure difference shall read zero after turning on, if not, reset the device as the steps below: press the DIF key and DIFFERENTIAL PRESSURE shows on the LCD, meanwhile hold on pressing on the HOLD key for about 3 seconds until the zero appears which indicates the reset is done, release the HOLD key and backlight key to return to normal measure mode

### 2. Calibration

In operation, if there is any error between the device and your standard, please calibrate it as the steps below:

(1)Power on.

(2)Hold on pressing the **HOLD** key and backlight key for about 3 seconds until the reading “1.00” shows on LCD with its unit “kPa” that is inner value of the device, which may be ignored by the users and indicates it is under calibration mode and the 2 keys said above could be released.

(3)Press on the **DIF** key to increase 1 kPa and hold on pressing the **DIF** key for 2 seconds to increase the value quicker.

GM510/GM511 calibration range: 1. 00kPa~10. 00kPa,  
-1. 00kPa~-10. 00kPa

GM520 calibration range: 1. 00kPa~35. 00kPa,  
-1. 00kPa~-35. 00kPa

(4)Press the **HOLD** key after selecting the desired value for calibration and import the differential value into the device.

(5)Press the backlight to exit calibration mode and return to normal measurement mode. If there is any further calibration repeat the step4 and step 5.

### 3. Restore ex-factory setting

Users may restore the device to ex-factory settings if the calibration data confused due to mistake operation.:

(1)Holding on pressing the **DIF** key, **HOLD** key, backlight key and **REC** key at one time

(2)Power on the device

(3)After full display and 0 appears release the **REC** key

(4)At 00 appearing release the backlight key

(5)At 000 appearing press the backlight key and **REC** key

(6)At 0000 appearing release all the keys and complete the operation

(7)After restoring to ex-factory setting, refer to point 1 and point 2 above for reset and calibration if necessary.

### 3、Others

#### Keep-up and maintenance

##### 1.Keep-up:

###### ○ Case cleaning

Use only the fresh water to clean the case of the product, forbidden to use any erosive liquid such as alcohol etc.

Never impact it or operate and store it in humid environment

###### ○ Do not store the product in the environment below:

a.Humid or dusty environment

b.High density of salt or sulfur

c.Environment full of the other chemical gas

d.High temperature or humidity, or environment in direct sunlight.

##### 2. Maintenance :

Please refer to the guaranty card offered.

We hold no responsibility for the product due to the following reason:

Unauthorized disassembly of the product, improper transportation after purchasing and wrong storage,

damage due to abuse, failure to provide purchasing proof or unauthorized amendment on the purchasing invoice/guaranty card

##### 3. Claim:

a. We reserve the right to change the specification or instruction manual of the product without further notification.

b. Old battery dealing must be complied with the local law and regulations.

#### Notes

- 1 .This product has been calibrated before loading, do not change the parameters without the presence of professionals and equipment.
- 2 .Amendment and maintenance must be kept by professionals not just doing it with reference to the manual.
- 3 .Clean the unit with cloth only without any solvent or liquid.
- 4 .Take out the battery if the unit is expect not to be used.