Model: GT5101

Low pressure chamber

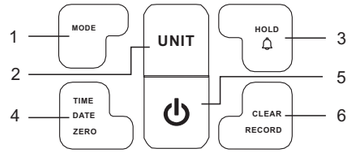
High pressure chamber

Version：GT5101-EN-01

A.Scope of application

Widely used to measure fan and blower pressure, filter resistance, air speed, furnace pressure, orifice plate differential pressure, etc. It is also used for controlling the air to gas ratio and the automatic valve in combustion process, and monitoring blood pressure and respiratory pressure in medical care equipment.

B. Key Description and Function Operation



1) Measurement mode switching:
Short press button 1 to change between DIFFERENTIAL PRESSURE - Maximum (MAX) - Minimum (MIN) - Average (AVG). Long press button 1 to exit.
2) Air pressure unit switching:
Short press button 2 to change between bar- mbar- kPa- Kgf/cm2- mmHg-cmH2O- Ozf/in2- Psi-inHg- inH2O-ftH2O-HPa-Pa. Long press button 2 to change directly to kPa.
3) Air pressure data hold/not hold: short press button 3.
4) Buzzer alarm on/off: long press button 3.
5) Time-date switch: short press button 4.

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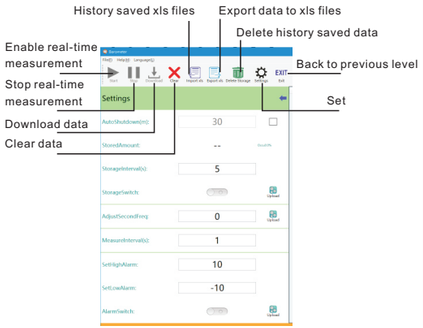
3) Air pressure data hold/not hold: short press button 3.
4) Buzzer alarm on/off: long press button 3.
5) Time-date switch: short press button 4.
6) Barometric pressure zero calibration: long press button 4.
7) Power on: short press button 5.
8) Power off: long press button 5.



9) Automatic shutdown function:
On: Automatic shutdown time setting: Computer application -> settings -> fill in the automatic shutdown time -> check the box behind the automatic shutdown -> click on the upload button in this area.
Off (this time): If the automatic shutdown function has been opened through the computer application, short press button 5 to display "uoff", indicating that the automatic shutdown function is only temporarily canceled, and the automatic shutdown function is still on after next start-up.
Off (permanently): Computer application -> settings -> do not check the box behind automatic shutdown -> click on this area to upload button icon.
10) Record data (air pressure value, air pressure unit, time and date) function:
On: short press button 6 or computer application -> settings -> fill in the storage interval (1s~ 9999s) -> turn on the storage switch -> Click on this area to upload the button icon;
Off: If the barometric data recording function has been turned on, short press button 6, or go to computer application->settings->close the storage switch->click on the upload button icon in this area;
Clear: Press and hold button 6 or go to computer application -> click on the delete storage icon;
View storage space: Computer application -> settings -> saved notes, the maximum number of

notes that can be stored is 15996; View recorded data: Computer application -> click on the download button icon;
Note: The more recorded data, the slower the data export time, please check the progress bar at the bottom right of the computer application when exporting.
11) Real-time monitoring function of pressure data graph:
Interval setting: Computer application -> settings -> fill in the measurement interval (unit: seconds);
12) Operating instructions for computer application:
Computer application -> help (H) -> help (H) -> click "yes" to open the help document.
13) Buzzer alarm function:
On: Press and hold button 3 or go to computer application -> settings -> set the high alarm value -> select all the numbers including the plus and minus signs behind -> press DELETE on the computer keyboard -> re-enter the alarm value, such as +2 (unit: kPa) -> set the low alarm value -> select all the numbers including the plus and minus signs behind -> press DELETE on the computer keyboard -> re-enter the alarm value, such as -3 (unit: kPa) -> turn on the alarm switch -> click on the upload button icon in this area;
Off: Computer application -> settings -> turn off the alarm switch -> click on the upload button icon in this area or press and hold button 3 to turn off.
Note: The range of high and low alarm values

that can be set varies depending on the pressure gauge's range.

C. Battery description

This device uses a lithium battery;
Charging method: 5V1A mobile phone power adapter;
Charging time (from 10% to 100%): about 1.5 hours;
Working time (from 100% to automatic shutdown): about 13 hours;
Standby time (from 100% to normal startup): Automatic shutdown when the voltage is lower than 2.9V about 8 months;
This instrument has protection functions to prevent overcharging and over-discharging of lithium batteries.

D. Specification parameters

Standby current	3.5uA
Working current	90mA(Turn off the buzzer when the lithium battery voltage is 4.2V)
Power	400mW(Turn off the buzzer alarm)
Temperature compensation range	-5 ~ 50℃
Overload pressure	X 3 FS

Accuracy (total error)	±1%FS(Differential pressure gauge with range of greater than or equal to ±1Kpa range) ±2%FS(Differential pressure gauge with range of less than ±1Kpa)
Operating temperature range	−10 ~ 60℃

⚠ The overload pressure is three times the maximum range, and overloading is strictly prohibited!

The company's existing pressure products range:

differential pressure type ±125pa - ±100Kpa

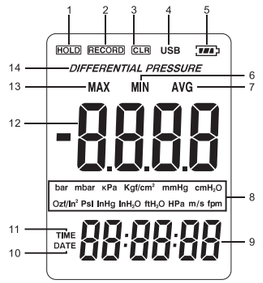
Please consult customer service staff for purchase;

For products with different ranges, the accuracy (total error) is not the same;

This series of pressure sensors is suitable for non-corrosive, non-ionic gas bodies (such as air and other dry gases).

E. LCD interface display

1. Data lock
2. Record data
3. Clear recorded dat
4. USB connection status



5.Battery level display / and charging function display

6.Calculate the minimum value

7.Calculate the average value

8.Pressure conversion unit:

bar：bar；mbar：millibar；Kpa：kilopascal；Kgf/cm²：kilogram-force per square centimetre；mmHg：millimeter of mercury；cmH_2O：centimeter water column；Ozf/in：Ounces of force per square inch；Psi：poundal-force per square inch；inH_2O：inch of water；ftH_2O：foot of water；HPA:hectopascal

9.Time and date display area

10.Real-time date

11.Realtime

12.Pressure value display area

13.Calculate the maximum value

14.Calculate the difference:

difference = real-time value - reference value (use the value when operating the button to start the difference function as a reference)

F. Annotations

1) Accuracy: Relatively applicable to the maximum output deviation of the best fitting straight line (BFSL) measured in the pressure range of 25°C. Including all errors caused by pressure nonlinearity, pressure lag, and non-repeatability;

2)Overload pressure:The maximum pressure that can be safely applied to the product, so that the product specification remains unchanged when the pressure returns to the working pressure range. Excessive pressure may cause permanent damage to the product;

3)Burst pressure: The maximum pressure that can be applied to any pressure port of the product without causing the pressure medium to disengage. The product will not work properly after being subjected to any pressure exceeding the burst pressure.

FS: full scale, e.g. differential pressure ±10Kpa range, FS=±10Kpa;

4)Compensation temperature range: The temperature range in which the sensor can produce output proportional to pressure under specific performance limits.

G. Abnormal Situations and Solutions

1)Clock failure: If "Err" is displayed in the LCD time and date display area, it indicates that the real-time clock has not been started successfully, and users can shut down and start it again. If it still cannot be started successfully,

it indicates that the firmware is damaged.

2)Automatic clock synchronization: Open the APP and plug in the USB to automatically synchronize the time with your computer;

3)Clock error adjustment: The accuracy of time is greatly affected by temperature and device accuracy. After a long time of operation, there will be differences between the time of the clock and the time displayed on your mobile phone and computer. Directly connect it with the computer APP, automatic synchronization will be completed, or adjust the second frequency setting through the APP to reduce the error. The larger the setting value is, the more the clock will slow down. Operation method: APP-> Setting->Fill in the adjustment second frequency (value range: 0-31)->Click the upload icon;

4)Directly plug in the power adapter or computer USB after shutdown to automatically start up and automatically charge the instrument, and LCD "USB" icon will be flashing. If the battery is fully charged, the battery icon stands still, indicating that it is not being charged. The battery icon beats to indicate that it is being charged. Long press button 5 to screen off and turn off the instrument. At this time, the battery can still be charged, but other functions will stop. If you need the instrument to work for a long time, directly plug in the power adapter;

5)LCD display "bAt" means that the battery will

automatically shut down when the battery is low;

6) The pressure dynamic value exceeds the alarm value, showing Hi/Lo, beyond the range of display oL(the range can not be exceeded for a long time, otherwise it is easy to damage the gas pressure sensor).

H. Notes before use

1) Due to the large range of pneumatic dynamic state, the differential pressure gauge with a range of ±40Kpa~±100Kpa will have zero drift of 20~50pa. The error caused by zero drift is small compared with the total error and can be ignored. Users can long press button 4 to return to zero;

2) The instrument should be kept in dry natural room temperature environment as far as possible. Remember to keep it far away from high temperature, and not to use it to measure liquid pressure and corrosive gas.

★ At present we have developed the following ranges of differential pressure gauges, ±125Pa , ±250Pa,±500Pa, ±1kPa, ±2kPa, ±2.5kPa, ±4kPa, ±5kPa, ±10kPa. ±40kPa, ±50kPa, ±100kPa, accuracy range: ±0.3%FS - ±2%FS, as toPlease consult our sales staff when purchasing to find out which range is the most accurate.

★ Linearity, hysteresis, repeatability, sensitivity, zero-point temperaturedrift, may vary

★ This instrument belongs to the micro small range differential pressure gauge, and the pressure range is dozens of Kpa. Do not directly used it for Mpa magnitude. Please carefully assess whether the air pressure you use meets the range of the differential pressure gauge you bought. If not, do not use it. Do not use it for a long time under large pressure overload, so as to avoid damage to the sensor. If the sensor is damaged, the company will not replace it free of charge.

Users can download the APP from http://benetechco.com/cn/support/center.html