

# **Ω OMEGA™** **User's Guide**



## **DPG210-KIT**

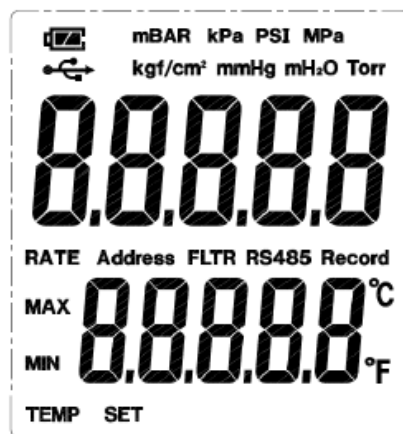
### **Pressure Calibration Kit**

The DPG210-KIT pressure calibration kits combine the high accuracy of our DPG210 digital pressure gauges with a pneumatic or hydraulic hand pump, providing an excellent solution for field calibration needs. Kits include the DPG210 digital gauge in your selected pressure range, hand pump, rugged carrying case, and a selection of fittings and hose. Kits with ranges of 500 psi or below includes a pneumatic hand pump capable of generating 0 to 500 psi pressure. For ranges of 1,000 psi or higher, a 0 to 10,000 psi hydraulic hand pump is included.

## NOTICE

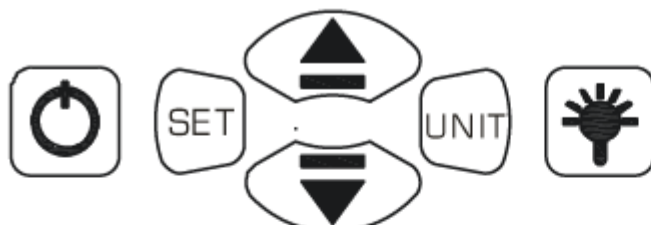
1. Please check the packaging and appearance after you received the product.
  2. Please check the mode and specification of the product. Ensure correct electrical connection and mounting method.
  3. Power: three AA battery or USB-power.
  4. During use, please note the technical and operation conditions: the temperature of medium, burst pressure, power supply.
  5. This product is a precision device, DO NOT use hard objects to touch the diaphragm or disassemble.
  6. During installation, do not install or uninstall with excessive forces, take special care with the installation of thread.
  7. Please install or uninstall with a suitable wrench.
  8. After starting the gauge, it is a normal phenomenon to take a few minutes to stabilize and work normally.
  9. During installation, the gauge may be affected by installation stress. After installation, please clear zero with no pressure applied.
- [!] Product damage caused by non-professional operation according to the operation instructions is not within the scope of the warranty.

## LCD AND CODE DESCRIPTION



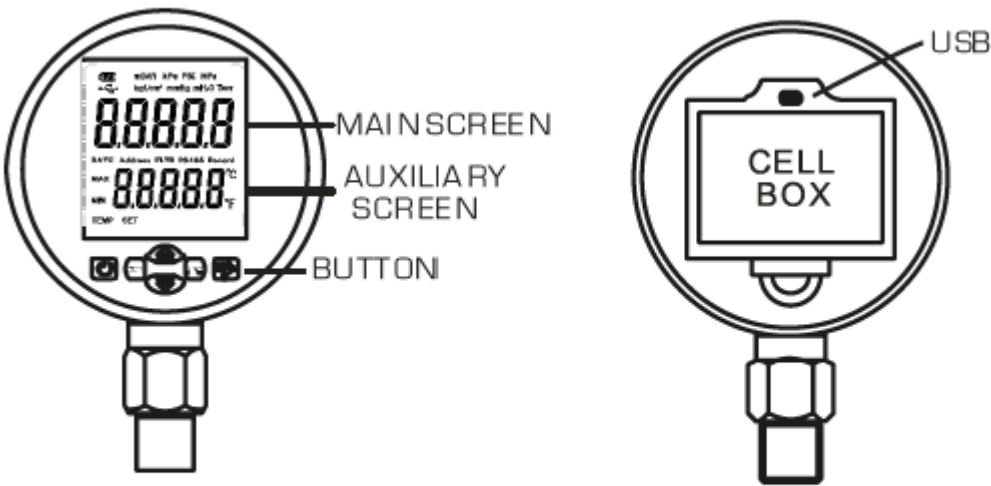
CODE	DESCRIPTION
MPa PSI mBAR kgf/cm <sup>2</sup> kPa mmHg mH <sub>2</sub> O Torr	PRESSURE UNIT
MAX/MIN	MAX/MIN PRESSURE
RATE	SAMPLING RATE
TEMP	CURRENT TEMPERATURE
°C	CENTIGRADE
°F	FAHRENHEIT DEGREE
TIME	TIME
SET	SET FUNCTION
	BATTERY LEVEL
Address	ADDRESS BIT
FLTR	BAUD RATE
Record	RECORD FUNCTION
	COMMUNICATION SIGN

## BUTTON FUNCTION



BUTTON	NAME	DESCRIPTION
	POWER	Short press to turn ON/OFF
	SET	Short press two seconds to enter set function, the 'SET' light on.
	INCREASE	Short press to increase; long press to zero clearing
	DECREASE	Short press to decrease; long press to clear auxiliary screen record value
	UNIT	Short press to switch pressure units
	BACKLIGHT	Short press to turn on the backlight; long press to keep the backlight on

# APPEARANCE

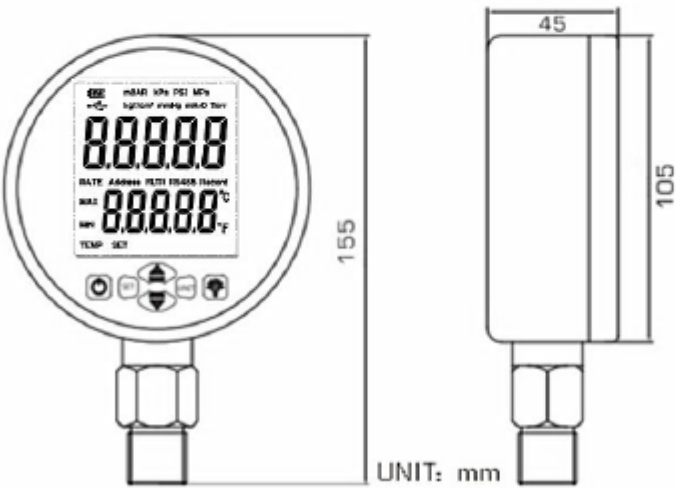


# POWER

Two modes power: Battery or USB


BATTERY	Three AA battery
USB	USB2.0, 5V Power(5V 0.15A)

# PRODUCT SIZE



## FUNCTION DESCRIPTION

### 1. ZERO CLEARING

Long press '' for 4 seconds to zero clearing (main screen). The full screen displayed once means zero-clearing finished.

\*\*\* MAIN SCREEN ZERO CLEARING MUST BE WITHOUT PRESSURE.

### 2. MAX/MIN VALUE ZERO CLEARING




Long press '' for 4 seconds to Max/Min value zero-clearing (auxiliary screen). The full screen displayed once means zero-clearing finished.

### 3. PRESSURE UNITS SWITCH


Short press '' to switch units cyclically.

\*\*\* NOT ALL THE PRESSURE UNITS CAN BE SWITCHED. THE SPECIFIC SITUATION BASED ON PRESSURE RANGE CHOICE.

### 4. BACK-LIGHT

Short press '' , the back-light will be on for 3 seconds; Long press '' for 2 seconds, the back-light will be always on. Press '' to turn off.

### 5. ON/OFF

Short press '' to turn on/off the gauge.













### 6. AUTOMATIC SHUTDOWN

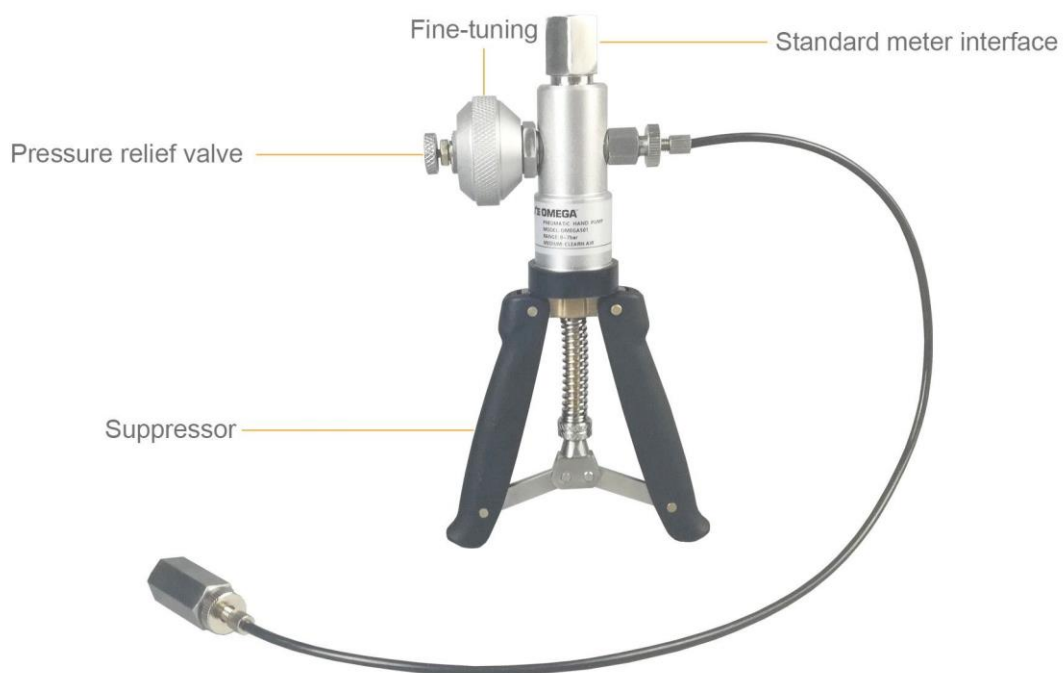
When the function is on, the gauge will shut down automatically with any operation in 10 minutes.

\*\*\* Factory defaults the function is on. Turn off the function, please refer to 'FUNCTION SETTING'.

## FUNCTION SETTING

\*\*\* Press 'SET' button for 2 seconds to enter set function, the screen will show 'SET' sign.

CODE	FUNCTION	DESCRIPTION
RATE	Sampling Rate	When 'RATE' light is on, the value showing on the auxiliary screen is sampling rate. The sampling rate range is 1~10(Factory defaults: 3). Higher value means lower sampling rate and stable; smaller value means faster sampling rate. then press 'SET' button to enter next function setting.
MAX	Maximun Value	When 'MAX' light is on, auxiliary screen showing 'OFF' means the function is off. If it is showing 'ON' means the function is on. Press '  ' or '  ' button to switch ON/OFF, then press 'SET' button to enter next function setting.
MIN	Minimun Value	When 'MIN' light is on, auxiliary screen showing 'OFF' means the function is off. If it showing 'ON' means the function is on. Press '  ' or '  ' button to switch ON/OFF, then press 'SET' button to enter next function setting.
TEMP	Current Temperature	When 'TEM' light is on, auxiliary screen showing 'OFF' means the function is off. If it showing 'ON' means the function is on. Press '  ' or '  ' button to switch ON/OFF, then press 'SET' button to enter next function setting.
AS-1	Automatic Shutdown	When auxiliary screen is showing 'AS-1/O', press '  ' or '  ' button to switch. (AS-1 means the function is on, the gauge will be shutdown in 10 minutes without any operation; AS-O means the function off), then press 'SET' button to enter next function setting.
ADDRESS	Address Bit	When 'Address' light is on, auxiliary screen showing address bit, press '  ' or '  ' button to change. (1~255 available). Then press 'SET' button to enter next function setting. *** This is an additional function. It needs to be specified before purchase.
FLTR	Baud Rate	When 'FLTR' light is on, auxiliary screen showing baud rate, press '  ' or '  ' button to change. (4800/9600/19200 available). Then press 'SET' button to enter next function setting. *** This is an additional function. It needs to be specified before purchase.



Pneumatic



Hydraulic

**Notice:** The oil cup is made of plexiglass. It is forbidden to contact with volatile media such as alcohol, dimethyl pump, ether, etc., to avoid damage to the oil cup



# Pneumatic and Hydraulic hand pumps

The Pneumatic and Hydraulic hand-held pumps are both used in conjunction with the DPG210 digital pressure gauge. It is a fast pressure source. It can easily achieve vacuum and positive pressure by adjusting the pressure and vacuum valve. It is suitable for calibrating various differential pressure, vacuum, pressure vacuum and pressure meters. It can also be used as the above-mentioned meters. Pressure vacuum source. It is portable, light in weight, light in operation, easy to carry and use, and can be used with pressure and vacuum instruments. Ranges lower than 500 psi are for the Pneumatic hand pump and ranges higher than 500 psi are for the Hydraulic hand pump.

The pressure fine-tuning handle is designed in structure, and the output pressure can be easily changed by rotating the fine-tuning handle. In addition, there is a high-pressure hose connection to be calibrated meter, output port connection standard meter. The hand-held pressure pump can be carried to the site and directly connected with the instrument to be calibrated, and the calibration is quick and simple. It is used to verify the pressure measuring instruments installed on site and various pressure instruments used in the control room. It can also provide a pressure source for the factory calibration of pressure measuring instruments.

- Output pressure:
  - Pneumatic (Ranges 100-500 psi): -13.78~595 psi
  - Hydraulic (Ranges >500): 0~10007 psi
- Working environment:
  - Temperature: 0-40°C (0-104°F)
- Threaded interface: ¼ NPT
- Weight: 2.0KG
- High pressure hose connector thread: ¼ NPT internal thread

## INSTRUCTIONS:

- After connecting the meter, close the pressure relief valve, and then hold the handle to start pressing (just a light hold with your hand)
- Push the pressure vacuum valve from one side of the reversing mark "V" to the other side to easily achieve vacuum; push the pressure vacuum valve from one side of the reversing mark "P" to the other side to easily achieve positive pressure
- In order to obtain an accurate pressure value during positive pressure, it can be achieved by a fine-tuner in a small range.
- After the pressure is suppressed, first release the pressure through the pressure relief valve, and then remove the meter.

## PRECAUTION:

During the calibration process, attention should be paid to keeping all connections sealed. After calibration, the pressure relief valve must be rotated to release the pressure before disassembling the instrument, otherwise the instrument may be damaged.

*For the Hydraulic pump:* Before using the pressure pump, unscrew the breather, fill it with a proper amount of oil (such as 1/2 cylinder of special oil), then tighten the breather, hold it firmly, loosen the handle, and drive out the gas in the cylinder for use.

## PROBLEMS AND SOLUTION

1. Q: Back-light Dim

A : Low Battery, install new battery.

2. Q: Battery identification flashing.

A : Low Battery, install new battery.

3. Q: Pressure no change

A: Reason Analysis:

(1). Pressure port is block.

(2). Zero clearing with pressure applied.

(3). Pressure sensor damage.

Solutions:

(1). Clear pressure connector.

(2). Zero clearing without pressure.

(3). Return factory for repair.

4. Q: Showing 'E-H'

A: Reason Analysis:

(1). Over pressure

(2). Pressure sensor is damaged

Solutions:

(1). Decrease pressure

(2).Return factory for repair

5.Q:Pressure change slowly

A: Sampling rate low. Sampling rate value decrease

6.Q: Pressure change slowly

A: Value is beating too fast. Sampling rate value increase