

DIGITAL PRESSURE GAUGE

MANUAL

I . NOTICE

- After receiving the product, please check whether the packaging and appearance are intact, and check whether the product model and specifications match the product you purchased.
 - Install and wire the product correctly and reliably according to the process connection, electrical connection and installation method provided by the product.
 - During use, please pay attention to the product's technical specifications and usage conditions, such as allowed medium and temperature, overload pressure, power supply voltage, etc.
 - The digital pressure gauge is a precision device. Users should not disassemble it by themselves when using it, and do not touch the diaphragm with hard objects to avoid damage to the product.
 - During the installation process, pay attention to protecting the product and do not install or disassemble it forcefully, otherwise it will easily damage the product, especially the installation thread.
 - Please use a suitable wrench when installing or disassembling. Do not forcibly twist the shell by hand to tighten or disassemble, otherwise the damage caused will not be covered by the warranty.
 - After installation and power-on test, it usually takes several minutes for the product to have stable output and normal operation. This is a normal phenomenon.
 - After power-on test after installation, if abnormal phenomena occur, please contact our company's after-sales technicians unless you have the product adjustment equipment and skills.
 - It may be affected by installation stress during the installation process. After the installation is completed, if the reading is not at zero, please clear it before use.
- (!) Product damage caused by non-professional operations that are not in accordance with the operating instructions is not covered in the warranty.

II . WARNING

- When the ambient temperature is above 60°C, please use a forced fan or cooler for cooling.
- The installation, debugging and maintenance of this product should be carried out by qualified engineering and technical personnel.
- The product shell should be reliably grounded to help resist electromagnetic interference and ensure electrical safety.
- If the fault or abnormality of this product may cause a major accident in the system, please set up an appropriate external protection circuit to prevent accidents.
- The company is not responsible for any direct or indirect losses other than the product itself.
- The company reserves the right to change product instructions without notice.

III. DESCRIPTION

Intelligent digital pressure gauge is a sophisticated pressure measuring product suitable for portable pressure measurement. This product adopts a main and auxiliary screen design, with the main screen displaying real-time pressure and the auxiliary screen switchable to display temperature, humidity, maximum value, minimum value and other data. The protection level is IP67. The product adopts Type-C external power supply and is equipped with Bluetooth function for convenient and quick debugging and parameter configuration. It is mainly suitable for use in inspection instruments, calibration instruments and other scenarios.

- ☆ Configurable to record up to 1 million data entries
- ☆ Low power consumption design
- ☆ Split-screen display on the main and secondary screens allows simultaneous display of multiple values
- ☆ Bluetooth connection debugging, compatible with SECA software, supports digital twins, enables parameter adjustment and data viewing at any time

IV. SPECIFICATION

Pressure range:
Vacuum range: (0~-100) kPa
Compound range: -0.1~0.1...1.0...2.5 MPa
Micro pressure range: -100....-25....-5~2...5...25...100 kPa
Conventional range: 0~0.16...10...60 MPa
(See product label for details)

Accuracy : See product label for details

Power supply voltage: Lithium battery (rechargeable)
or powered by 2 AAA batteries

Contact method: Bluetooth

Installation method: M20 * 1.5, G1/4 external thread,
G1/2 external thread

Dial size: 2.5 inch

Data Configuration: Bluetooth configuration

Data storage: 100W pieces

Screen display mode: LCD screen (black background with white text)

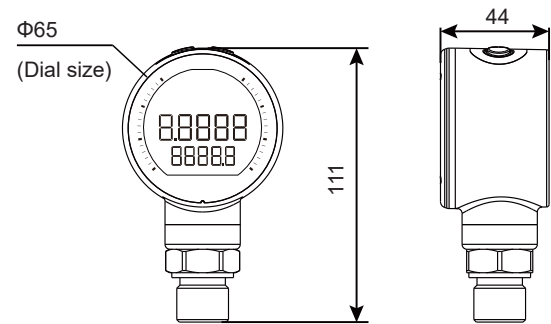
Joint material: 304 stainless steel

Protection level: IP67

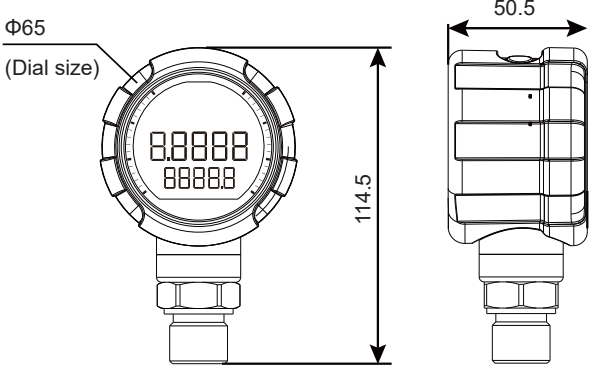
Operating temperature: (-10~60) °C

V . DIMENSION

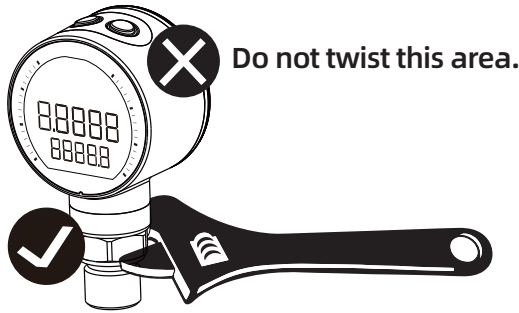
5.1 Without protective cover



5.2 With protective cover



VI. INSTALL



Note:

- Before installing the device, please confirm if the installation space can accommodate the product.
- Be sure to use an adjustable wrench when installing the pressure gauge. The wrench must complete the equipment tightening operation at the hexagonal position of the threaded interface to ensure airtightness. **Do not directly fix the device by twisting other parts!**
- Please make sure to fully charge the product in advance and use the standard adapter and charging cable when charging. After on-site installation, ensure that the product has electricity before it can operate normally.

VII. FUNCTION DESCRIPTION

7.1 Product Top Button Description

Button	Name	Function	Instructions
	power button	Power on Quick function switching	In the power on state: Short press the power button to quickly switch the display content and shortcut functions of the secondary screen, long press the power button for 3 seconds to shut down. In shutdown state: Short press to power on
SET	settings key	Unit switching System Settings	In startup mode: Short press to switch units, long press for 3 seconds to enter system parameter settings

7.2 Quick function description under the Power Button()

Quick Access	Functional Description
maximum	The MAX symbol lights up, and the secondary screen displays the current maximum value.
minimum	The MIN symbol lights up, and the secondary screen displays the current minimum value.
Current temperature	The °C or °F symbol lights up, and the secondary screen displays the current ambient temperature.
Current humidity	%The symbol lights up, and the secondary screen displays the current environmental humidity.
Full scale	The FS flag lights up, and the secondary screen displays the current full-scale value.
Zero clearing	The secondary screen displays code C-L, and the main screen pressure display flashes at a frequency of 1 second. Press the SET button briefly to fully display the main screen and clear the current zero position. Zero tolerance limit of 10% FS.
Record	When the code rcd is displayed on the secondary screen, short press the SET button to quickly start data recording. The recording interval is the same as the current acquisition frequency. When recording the status, rcd flashes once every 1 second. Short press the SET button again to stop recording.

VIII. SYSTEM PARAMETER SETTING

Content	Code Display	Functional Description	Default Value
Bluetooth switch	Secondary screen: BLE Main screen: setting values	Set whether to enable Bluetooth function, ON/OFF. ON means Bluetooth function is turned on, OFF means Bluetooth function is turned off.	Default: ON Bluetooth function turned on
Sampling frequency	Secondary screen: rAtE Main screen: setting values	Set the collection frequency and gear of the sensor. Here are 10 gear options available: 0.1S, 0.3S, 0.5S, 0.7S, 1S, 2S, 3S, 5S, 8S, and 10S	Default: 0.3S
Filter Coefficient	Secondary screen: FIR Main screen: setting values	Set the filtering coefficient within the range of 1 to 7.	Default: 3
Temperature unit	Secondary screen: TEMP Main screen: °F/°C	Set the unit for displaying the current ambient temperature, which can be switched between °F and °C units.	Default: °C
Backlight delay shutdown	Secondary screen: BL Main screen: setting values	Set the backlight delay off time within the range of 1 minute, 3 minutes, 5 minutes, 7 minutes, and 10 minutes, with the backlight normally on.	Default: 3 minutes
Auto Shutdown	Secondary screen: AS-1/0 Main screen: ON/OFF	Set whether to enable automatic shutdown function, AS-1 means to turn on the function, AS-0 means to turn off the function. The instrument panel will automatically shut down within 30 minutes without any button operation after being turned on.	Default: AS-0 (function disabled)
Absolute pressure mode s witching	Secondary screen: ABS Main screen: ON/OFF	Set whether to enable absolute pressure mode, ON/OFF. ON means to turn on the absolute pressure mode, OFF means to turn off the absolute pressure mode.	Note: Enabling the internal absolute pressure sensor will reduce the accuracy to ±1% FS, for reference only.
Restore factory settings	Secondary screen: REST Main screen: CONF	Set to restore factory settings, the main screen displays CONF; short press the power button CONF to start flashing, and short press the power button again to restart the instrument, indicating successful factory settings restoration.	Note: After restoring the factory settings, delete all recorded data and restore all set values to the factory state.

IX. BLUETOOTH COMMUNICATION

This product can be debugged through on-site WeChat mini programs and APP clients. The set parameters include: data collection frequency, current pressure data, reset function, etc.

1. Use the mobile system 'Scan' or browser 'Scan' to scan the QR code below and install the app using the installation package.



SECA



Android/ios

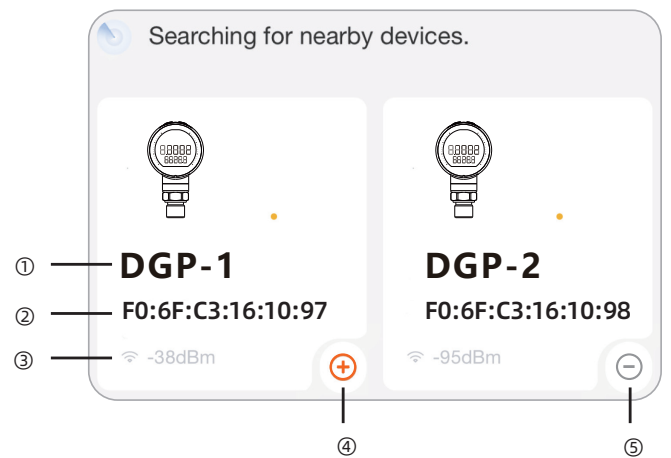
2. ① Android: Open "Google Play" on your Android phone, search for "SECA" to download the app.
② iOS: Open the "App Store" on your iOS phone and search for "SECA" to download the app

Both of the above methods can search for devices, just connect.

Note: To ensure the normal connection of the mobile phone to the device, please keep the cellular data, positioning, and Bluetooth functions on at all times.

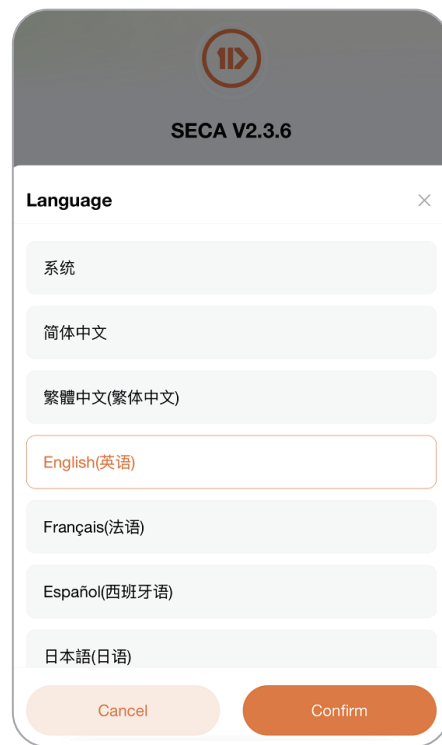
2. After installing "SECA", device debugging can be carried out through the following operations:

2.1 Main interface composition



- ① : Equipment model name.
② : Device MAC address.
③ : Bluetooth communication signal situation, the larger the value, the worse the signal.
④ : Connect the device.
⑤ : Remove the device.

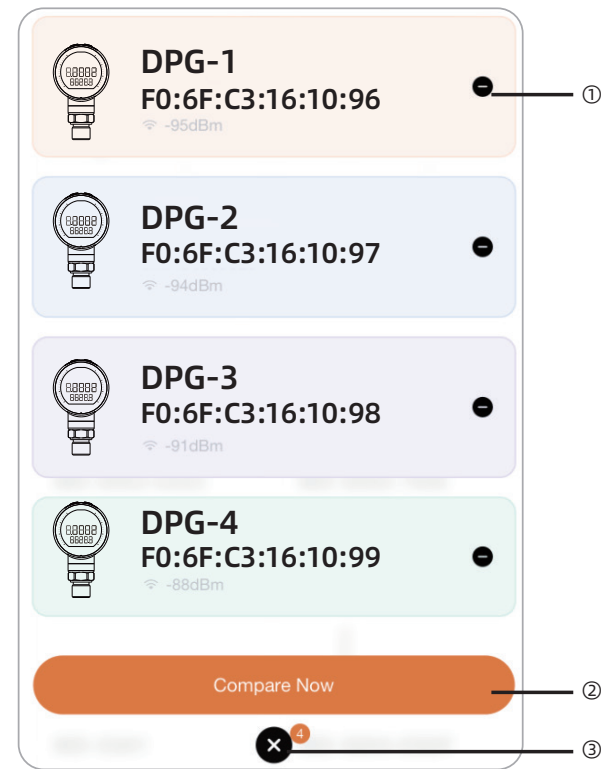
2.2 Sub interface composition



Note:

- ① Under the secondary interface, the version number of the software function can be viewed.
- ② Users can switch app languages in the language function menu. (After selecting, you need to restart the app)

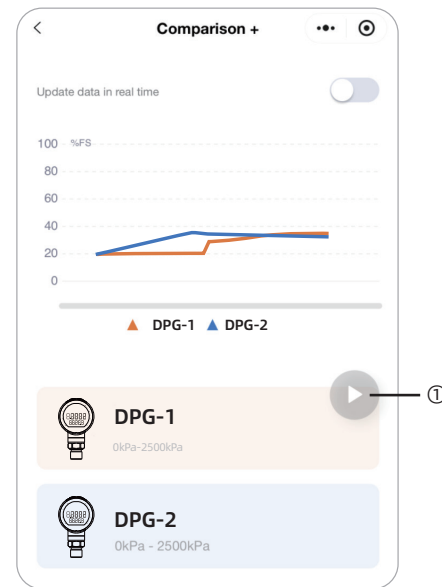
2.3 Multi device connection group mode



Note:

- ① : Remove added devices
 - ② : Enter data comparison
 - ③ : Click X to switch to the device addition interface
- *Up to 4 different Bluetooth devices can be added to the same group.

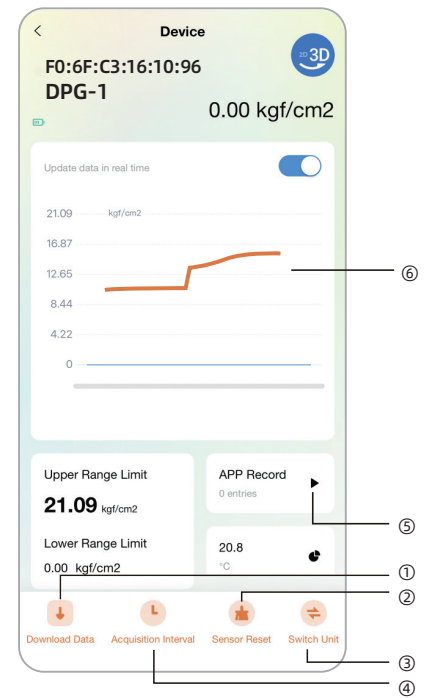
2.4 Data observation under multi device connection



Note:

- ① : Users can click the play button to enable/disable remote data recording. The final mobile phone will organize the collected data into EXCEL format.

2.5 Single device connection mode



Note:

- ① : Read technical data from device history.
- ② : Reset operation of digital pressure gauge.
- ③ : Unit switching.
- ④ : Modify the equipment acquisition interval.
- ⑤ : Enable/disable remote data recording.
- ⑥ : Pressure line chart.

2.6 Data export mode

excel21-815-387			
excel21-815-...			
	A	B	C
1	Unit	kPa	
2	Serial Number	Data	Time
3	1	009:10:02:679	
4	2	009:10:03:679	
5	3	009:10:04:679	
6	4	009:10:05:679	
7	5	009:10:06:679	
8			
9			
10			
11			
12			
13			
14			
15			

Note:

- ① In data export mode, the exported data includes parameters such as collection time, real-time pressure situation, serial number, etc.
- ② The total amount of exported data is related to the collection time and sampling frequency.
- ③ The larger the amount of data, the longer the export time. If the exported data exceeds 1000 at a time, please ensure that the digital pressure gauge and mobile phone maintain Bluetooth communication at all times.

X . FCC WARNING

This device complies with part 15 of the FCC Rules. Operation is subject to the following two

conditions: (1) This device may not cause harmful interference, and (2) this device must

accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital

device, pursuant to part 15 of the FCC Rules. These limits are designed to provide

reasonable protection against harmful interference in a residential installation. This equipment

generates, uses and can radiate radio frequency energy and, if not installed and used in

accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

—Reorient or relocate the receiving antenna.

—Increase the separation between the equipment and receiver.

—Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

—Consult the dealer or an experienced radio/TV technician for help.

Note: The Grantee is not responsible for any changes or modifications not expressly

approved by the party responsible for compliance. such modifications could void the user's authority to operate the equipment.

The device has been evaluated to meet general RF exposure requirement.

This equipment complies with FCC's RF radiation exposure limits set forth for an uncontrolled environment. This device and its antenna(s) must not be co-located or conjunction with any other antenna or transmitter.

XI. PROBLEMS & SOLUTIONS

Number	Problem	Reason	Solution
1	The backlight is very dim	Low battery level	1. Battery charging 2. Replace the dry battery
2	Battery identification flashing	Low battery level	1. Battery charging 2. Replace the dry battery
3	Pressure remains unchanged	1. Resetting under pressure leads to 2. Pressure hole blockage 3. The sensor is damaged	1. Reset to zero without pressure 2. Check the pressure hole 3. Return to factory for repair
4	Display E-E	1. Abnormal sensor communication 2. Sensor damage	1. Return to factory for repair
5	Display E-H	1. Pressure exceeds the range 2. Sensor damage	1. Be careful not to overpressure 2. Return to factory for repair
6	Display LOW bAtt	Low battery level	1. Battery charging 2. Replace the dry battery
7	The numerical jump is too slow	1. Filter constant setting issue 2. The collection frequency setting cycle is too long	1. Adjust the filtering coefficient 2. Adjust the collection frequency
8	The value jumps too fast	Filter constant setting issue	Adjust the filtering coefficient
9	Frequent pressure impact	1. Easy to damage sensors 2. Easy to cause leakage	Add buffer tubes
10	There is high temperature on site	1. Easy to damage pressure gauge 2. Causing pressure deviation	Add heat pipes/fins
11	FULL	Memory data is full	Clear stored data

XII. AFTER-SALE SERVICE

After-sales service and warranty terms

- The product warranty period is 24 months from the date of delivery. If our company's products fail during normal use within 7 days from the date of sale, consumers can choose refunds, exchanges, maintenance and other services. After consumers purchase our company's products, they can be repaired free of charge within two years if there is a failure that is not caused by human damage. The purchase time is based on the invoice or receipt date issued at the time of purchase.

For consumers who are not satisfied with the free replacement or free warranty service, our company still provides technical services.

- The following situations do not qualify for the "Three Guarantees" service**
 - All damage caused by human factors and use in abnormal working environment, failure and damage caused by not using according to the instructions or using in an environment not specified in the instructions, etc.;
 - Users dismantle, repair, and modify products without the consent of our company;
 - Damage caused by poor transportation after purchasing our products;
 - Damage caused by other force majeure (such as floods, lightning strikes, earthquakes, abnormal voltage);
 - Normal use, wear, cracking and contamination, etc.;
 - The products are mainly divided into shells, circuit boards and pressure-sensitive components. The normal wear and tear of the shell is not covered by warranty, and the shell will not be replaced. Over-range use or high-temperature use will cause circuit board damage and are not covered by warranty. The warranty does not cover damage to the pressure-sensing element caused by overpressure or touching the membrane with hard objects;
 - Products that do not belong to our company (such as fakes);
 - Failure to provide valid shopping receipts, no warranty card, etc.;
 - Some accessories are not covered by the three guarantees, such as batteries, etc. If there is any damage, please purchase accessories for this product.

Warning: 

Do not disassemble the product without authorization!
It is strictly forbidden to insert sharp objects into the pressure-inducing hole!