

DPG+ High Precision Digital Gauge With Bluetooth Installation and Maintenance Instructions

HIGH PRECISION PRESSURE GAUGE MANUAL

I: NOTICE

1. Please check the packaging and appearance after you receive the product.
2. Please check the mode and specification of the product. Keep correct electrical connection and mounting method.
3. Power: three AAA batteries or USB power.
4. During use, note the technical and operational conditions: the temperature of the media, burst pressure, power supply.
5. This product is a precision device, DO NOT use sharp objects to touch the diaphragm or disassemble the product.
6. During installation, use the hex-nut.
7. Please install or disassemble with a wrench, otherwise warranty will not be covered.
8. After starting the gauge, it is normal to take a few minutes to start up.
9. If the product is out of order, please contact our after-sales technical staff.
10. During installation, the gauge may be affected by installation stress. After installation, please re-zero.

(!)Product damage caused by non-professional operation is not covered by warranty.

II: WARNING

1. This product is a precision instrument, it should be regularly calibrated or serviced to ensure the accuracy of the product.
2. Product storage should be moisture and dust free, as much as possible in a dry and stable temperature environment.
3. Winters does not undertake any direct or indirect loss other than the product itself.
4. Winters reserves the right to change the specifications of the product without notice.

III: DESCRIPTION

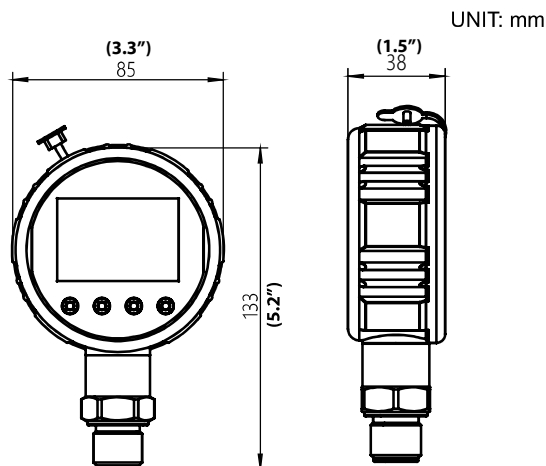
DPG+ high-precision digital pressure gauge is a 330° rotating high-precision pressure gauge, which adopts a main screen and secondary screen display. The main screen will display the real-time pressure measurement. The secondary screen displays the ambient temperature, maximum pressure, pressure minimum value, measuring range and other reference data. The product has powerful functions and can switch between a variety of pressure units. Pressure collection rate is adjustable. Collected data and export records are available via Bluetooth. This product comes standard with USB power supply, optional 3 AAA batteries or rechargeable battery power.

Main screen and secondary screen dual-screen display, the main screen displays real-time pressure; the secondary screen displays current temperature/maximum value/minimum value/pressure range
Multiple power supply methods: standard USB power supply, optional 3 AAA batteries or rechargeable batteries
Pressure sensor, accuracy 0.05%, 0.1%, 0.2% optional
12 pressure units which are switchable:
MPa/kPa/psi/bar/kgf/cm2/mbar/mH2O/Torr/inHg/inH2O/ATM/inWC
The dial can be rotated 330 degrees
Bluetooth function: can set various parameters and export recorded data

IV: SPECIFICATIONS

Pressure range: -0.1MPa ... 0-1 ... 1040 ... 100MPa (for specific range, see the nameplate on the device)
Overload pressure: 150%(>10MPa) ; 200%(≤10MPa)
Backlight color: green backlight
Dial size: 85mm (3.3")
Accuracy grade: 0.05%, 0.1%, 0.2% (for the specific range, see the marking on the nameplate)
Long-term stability: better than 0.05% FS/year
Working temperature: -5 - 40°C (23-104°F)
Electrical protection: Electromagnetic interference design
Sampling frequency: 1 - 10 times/second
Measuring medium: gas or liquid compatible with 316 stainless steel
Connection: NPT, G or customized thread
Connection material: 304 stainless steel
Rotation angle: 330° degree
Product function: power on/off, backlight, reset, unit switching, extreme value, temperature display
Power supply voltage: 3 AAA/rechargeable batteries or USB powered
Case material: cast zinc with silicone rubber protective boot
Long-term stability: better than 0.05% FS/year
Protection class: IP65

V: DIMENSIONS



VI: BUTTON FUNCTIONALITY

6.1. LCD screen and code description:



Code	Description
	Pressure percentage bar
	Power supply
REC88	The number of data recorded
88888	Pressure unit
	Main Screen: Current Pressure Value
	Battery power
	Bluetooth®
88888	Secondary screen: current temperature/ extreme values
FS	Pressure range
T	Temperature sign
°F	Temperature: Fahrenheit
°C	Temperature: Celsius
MIN	Pressure minimum
MAX	Maximum pressure

Note: The above codes are not all open due to product design requirements.

6.2. Key and function description:

Button	Name	Button & function description
	Power	Press to turn ON, long press to turn OFF.
UNIT/MENU	Unit/Set	Press to switch between units, long press to enter parameter setting
MODE/ZERO	Mode/Zero clear	Press to switch for secondary screen mode, long press to clear the device
SET/REC	Confirm/Record	Press to confirm settings and exit; Press and hold to enter or exit the recording function

VII: POWER SUPPLY

This product can be powered in two modes, battery or USB.

Battery power	Powered by 3 AAA batteries or a rechargeable battery pack. When the battery indicator alarms, the batteries need to be replaced/charged in time.
USB power supply	Adopts type-c power supply, and the power supply is 5V * This product comes with a standard power cord (5V, 0.15A) * The product is equipped with power management, plug into the type-c port without removing the battery.

For battery replacement:

First remove the protective cover, there are 3 screws on the back cover. After removing them, open the back cover to reveal the batteries. Replace with three AAA batteries.

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VIII: FUNCTION DESCRIPTION

8.1 Changing device parameters

Press and hold the UNIT/MENU button until P0 appears. At this time, press this button UNIT/MENU button continuously to cycle through the various functions (codes for each are in the table below). Press the MODE/ZERO button to change a function's parameters. When you are done, press the SET/REC button to save the settings and return to the pressure display home page:

Code	Function	Description
P0	Automatic switch on and off	This function is turned off by default. After the function is turned on, the device will automatically shut down after 5 minutes of no key operation.
BLE	Bluetooth function	It is turned on by default. After turning it on, you can use the Bluetooth function to turn it off. After turning it off, you cannot use Bluetooth.
RATE	Acquisition rate	Default is 0.3 seconds, can be changed from 0.1 to 10 seconds.
FLTR	Filter coefficient	Default 5, can be changed to 1~7 times
E000	Full scale compensation	Default 1.000, 0.500~1.500
rES	Reset	
DEL	Clear storage	Click the SET button to clear all recorded data

8.2 Change device date and time

You can change and record the time. The specific operation is as follows. Press and hold the UNIT/MENU and MODE/ZERO buttons at the same time until the YEAR page appears. This page is the year setting.

To change the year, press the UNIT/MENU button to decrease the year value, and the MODE/ZERO button to increase the year value.

Press the power button to cycle between additional time settings. There are options for nntH (month), dAY(day), HOuR (hour), nit (minute), and SEC (second). Change these values using the UNIT/MENU and MODE/ZERO buttons as before. When you are done, press the SET/REC button to save your settings.

Note: After the device is connected to Bluetooth®, it will automatically retrieve the current time and save it to the device.

To export recorded data via Bluetooth® see section 9 below.

IX: BLUETOOTH OPERATION

The Bluetooth® function is a more distinctive function of this gauge. By downloading the mobile app, you can control many functions of the gauge on your phone, including recording/exporting data, changing the acquisition rate, resetting the sensor, changing pressure measurement units, and much more.

USING THE SECA MOBILE APP

9.1 Download from Google Play Store or App Store, turn on GPS and Bluetooth®

Download the app using the QR code on the right. Ensure GPS location and Bluetooth® functions on your phone are turned on.

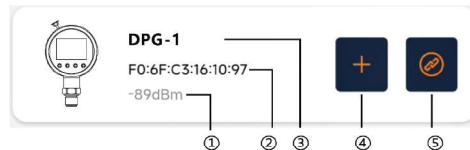


9.2 Open the app and connect to gauge

Open the app on your phone and select language. Swipe down on the main screen to find available gauges in range.

9.3 Connect to gauges

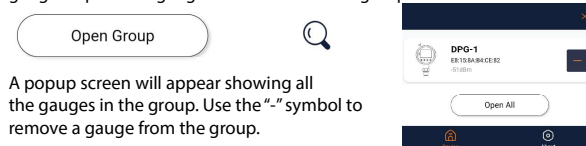
Available gauges in range are displayed in the following format:



- 1.) Bluetooth® signal condition. The lower the value, the better the signal
- 2.) Gauge MAC address
- 3.) Gauge name
- 4.) Add gauge to a group of gauges (see step 9.4 below)
- 5.) Connect to this gauge only (see step 9.6 below)

9.4 Connecting to a group of gauges

Tap "open group" at the top of the gauge listing screen to reveal all grouped gauges. Up to four gauges can be added to a group.



A popup screen will appear showing all the gauges in the group. Use the "-" symbol to remove a gauge from the group.

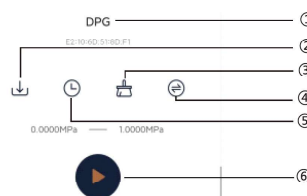
9.5 Monitor data from multiple gauges in a group

Tap "open all" to connect to all gauges in a group. All gauges in the group and their current measurement data will be displayed in real time. To start recording data, press the play button, and press again to stop data recording. Recorded data from devices in the group will then be automatically exported in an excel spreadsheet.



9.6 Connecting to a single gauge

- 1.) Gauge name. Tap to change.
- 2.) Change data recording settings. Here you can access the gauge's reader count and change the recording start and end times. You can also clear all recorded data, export recorded data, and begin data recording using the settings defined in this menu.
- 3.) Zero the gauge
- 4.) Change unit of measurement
- 5.) Change the data acquisition rate (sampling rate) between 0.1s-10s.
- 6.) Quick record button. Tap to start recording and again to end recording. Recorded data will be automatically exported in an excel spreadsheet.



9.7 Data export

Recorded data is exported in csv format. Exported data includes parameters like collection time, real-time pressure status, serial number etc.

The total amount of data exported is related to the collection time and sampling frequency.

Large volumes of data (especially datasets exceeding 1,000 lines), will take some time to export. Please do not disconnect the Bluetooth® connection while an export is underway.

Serial No.	Date	Maximum	Minimum	Real-time	Temperature
1	2025-01-2	0	0	0	72.3k, %
2	2025-01-2	0	0	0	72.3k, %
3	2025-01-2	0	0	0	72.3k, %
4	2025-01-2	0	0	0	72.3k, %
5	2025-01-2	0	0	0	72.3k, %
6	2025-01-2	0	0	0	72.3k, %
7	2025-01-2	0	0	0	72.3k, %
8	2025-01-2	0	0	0	72.3k, %
9	2025-01-2	0	0	0	72.3k, %
10	2025-01-2	0	0	0	72.3k, %
11	2025-01-2	0	0	0	72.3k, %
12	2025-01-2	0	0	0	72.3k, %
13	2025-01-2	0	0	0	72.3k, %
14	2025-01-2	0	0	0	72.3k, %
15	2025-01-2	0	0	0	72.3k, %
16	2025-01-2	0	0	0	72.3k, %
17	2025-01-2	0	0	0	72.3k, %
18	2025-01-2	0	0	0	72.3k, %
19	2025-01-2	0	0	0	72.3k, %
20	2025-01-2	0	0	0	72.3k, %
21	2025-01-2	0	0	0	72.3k, %
22	2025-01-2	0	0	0	72.3k, %
23	2025-01-2	0	0	0	72.3k, %
24	2025-01-2	0	0	0	72.3k, %
25	2025-01-2	0	0	0	72.3k, %
26	2025-01-2	0	0	0	72.3k, %
27	2025-01-2	0	0	0	72.3k, %

X: CODE DESCRIPTIONS

NO	SYMBOL	MEANING
1	BLC	Bluetooth function, you can use Bluetooth debugging after turning it on
2	E-H	The current pressure exceeds the range or the sensor is damaged
3	RA1E	Sensor sampling interval setting
4	E000	Display error correction coefficient setting
5	FILT	Filter constant settings
6	MAX	Maximum value identifier
7	MIN	Minimum value identifier

XI: TROUBLESHOOTING

NO.	PROBLEMS	REASONS	SOLUTIONS
1	The backlight is very dim	Battery is low	Replacement battery
2	Pressure does not charge	1. The pressure socket is blocked 2. Caused by pressure clearing 3. Sensor damaged	1. Check the pressure hole 2. Reset without pressure 3. Return to factory for repair
3	Display E-H	1. Pressure exceeds range block 2. The sensor is damaged	1. Be careful not to overpressure 2. Return to factory for repair
4	Value jumps too slowly	Adjust filter constants	See items at 2 points
5	Value jumps too fast	Adjust filter constants	See items at 2 points
6	Frequent shocks of pressure	1. Easily damage the sensor 2. Easily cause leakage	Add buffer tube
7	There is high temperature on site	1. Easily damage the pressure gauge 2. Cause pressure deviation	Add heat pipes/fins

XII: AFTER-SALES SERVICE

1. The Product warranty period is 5 years from the date of manufacture. During the 5 years, there is free warranty for manufacturing defects. When the product is out of warranty, Winters still provides technical support.
2. The main parts of the product are: pressure-sensitive components, case and screen buttons. Normal wear and tear of the case is not covered by warranty and replacement. Diaphragm damage (due to over pressure or sharp objects) is also not covered by warranty.
3. The following situations are out of warranty:
 - All human factors: failure to follow the instructions, damage in abnormal working environment
 - Repair of the product without Winters' authorization.
 - Damage caused by poor transportation after purchasing product
 - Damage caused by flood, lightning, earthquake, high voltage
 - Disassembled product
 - Incorrect application
 - Unable to provide valid purchase order