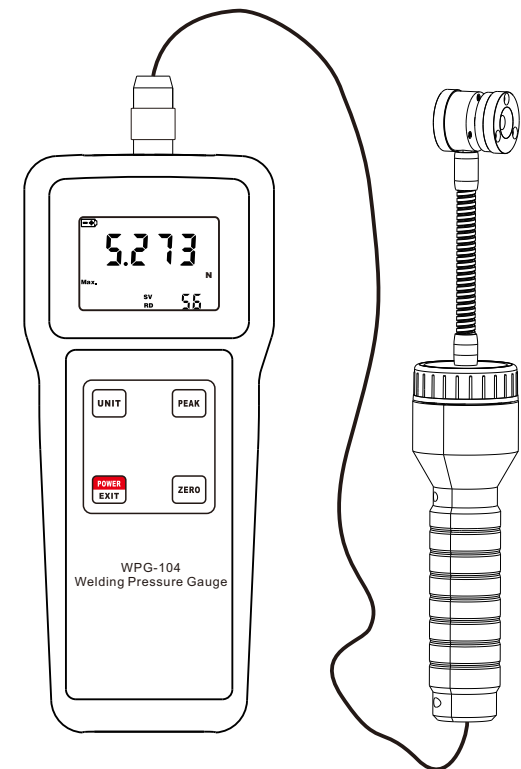


Welding Pressure Gauge

- WPG-104-10KG
- WPG-104-100KG
- WPG-104-1000KG



When you buy this instrument, you are taking a step forward in the field of precision measurement. The watch is a computer-centered test tool that, if properly operated, is robust enough to last for many years. Please read this manual carefully before use and keep it in an easily accessible place.

- D. Please use a soft cloth to clean the gauge. Soak the cloth in the water with cleaning agent, wring it out, and then use it to remove the dust and dirt.
Note: do not use volatile chemicals to clean the gauge (such as volatile agents, thinner, alcohol, etc.)
- E. Do not use the gauge in the following environment,
 - 1. Wet environment
 - 2. Dusty environment
 - 3. The place where with the use of chemicals or oil
 - 4. The place where with vibration source
- F. After use, please put the force gauge into the portable box, to protect the testing shaft from the external impact.
- G. This gauge is a high-precision integrated electronic gauge with the LCD.
Do not impact or extrude.
- H. Do not disassemble or repair the machine by yourself, which may cause permanent fault of the gauge.

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1. INTRODUCTIONS

Our latest type of microelectronic digital display instrument. It has the input end of a dynamometer (pressure) and a weight transducer (weight) strain gauge. It is used in the latest static and dynamic measurement systems, such as material test machines, printing machines, test benches and automatic equipment. Up to $\leq \pm 0.02\%$ measurement precision, can be used in the quality test system, for the first batch or the second batch of samples for testing, To proceed to a general calibration. The measurement system consists of A modular component, specifically a long-term stable modular component, a thermal drift transmission frequency feeder for a reduced system, and a 16-bit A/D converter guaranteeing 65.000 internal division.

2. FUNCTIONS AND FEATURES

- * High accuracy and high resolution.
- * Digital display with no guessing or errors.
- * With 3 measurement unit for selection and conversion, N, kg, lb.
- * With peak value hold function.
- * With 10 minutes auto power off and manual power off.
- * Power can be supplied by either alkaline battery or 5V DC power.

3. TECHNICAL PARAMETERS

Model	WPG-104-10KG	WPG-104-100KG	WPG-104-1000KG
Force Range	$\pm 10\text{kgf}$	$\pm 100\text{kgf}$	$\pm 1000\text{kgf}$
	$\pm 98\text{N}$	$\pm 980\text{N}$	$\pm 9800\text{N}$
	$\pm 22\text{Lbf}$	$\pm 220\text{Lbf}$	$\pm 2200\text{Lbf}$
Resolution	0.01kgf (<100kgf) 0.1kgf ($\geq 100\text{kgf}$)	0.01kgf (<100kgf) 0.1kgf ($\geq 100\text{kgf}$)	0.01kgf (<100kgf) 0.1kgf ($\geq 100\text{kgf}$)
	0.1N (<1000N) 1N ($\geq 1000\text{N}$)	0.1N (<1000N) 1N ($\geq 1000\text{N}$)	0.1N (<1000N) 1N ($\geq 1000\text{N}$)
	0.1Lbf (<1000Lbf) 1Lbf ($\geq 1000\text{Lbf}$)	0.1Lbf (<1000Lbf) 1Lbf ($\geq 1000\text{Lbf}$)	0.1Lbf (<1000Lbf) 1Lbf ($\geq 1000\text{Lbf}$)
Accuracy	$\pm 0.5\%FS \pm 1\text{Digit}$		
Unit	kgf, N, Lbf		
Measurement State	Peak Value Measurement, Real Time Measurement		
Display	Lcd		
Power Off	10 Minutes Auto Power Off, Manual Power Off		
Backlight	Blue Backlight		

8. UNIT CONVERSION FUNCTION

In either Real Time Measurement Mode or Peak Hold Measurement Mode, press the Unit Key (UNIT) for measurement unit conversions.

9. BATTERY REPLACEMENT

- 9.1 When it is necessary to replace the battery, the battery symbol will appear on the Display.
- 9.2 Slide the Battery Cover away from the gauge and remove the batteries.
- 9.3 Install new batteries correctly into the case.
- 9.4 If the gauge is not to be used for any extended period, remove batteries.

10. SECURITY AND CAUTIONS

10.1 Cautions

- A. If the operation is incorrect, it is possible to damage the gauge or cause serious accident. In the manual, the important items of accident prevention and measurement procedure of the gauge are pointed out. Please read this manual carefully before measurement, keep it properly after reading, in preparation to read again.
- B. If it is to test the impact load, please select models with safe load at least double as large as the impact load.

10.2 Warning

- A. In destructive testing, protective masks and gloves should be worn to prevent the occurrence of the damage to the human body because of material splashing during testing.
- B. Do not use fixtures which have been damaged or severely bent. For users, please refer to the relevant specifications in this manual when using a self-made fixture (various types of fixtures are provided for customers to select according to need).
- C. Do not test force exceeding the maximum range of the gauge. Otherwise it may cause damage to the sensor, or even an accident.
- D. When the tested force exceeds 110% of the range, a continuous buzzer alarm comes out. In this case, please remove the load quickly, or reduce the load.

10.3 Security Items

- A. When using the power adapter, the voltage of power supply should be the same as the rated voltage, or it may cause electric shock or fire.
- B. Do not pull out or insert the plug with wet hands, or it may lead to electric shock.
- C. Don't pull the cable of the power adapter to pull the plug, to avoid wire broken and electric shocks.

5.2 Power Off

5.2.1 Manual Power Off

In the state of power-on, press and hold the Power/Exit Key (POWER/EXIT) for about 2 seconds, the indicator 'OFF' comes out. Then release the key, the gauge is powered off.

5.2.2 Auto Power Off

Auto power off function can be activated by user. When it is activated, the gauge will be powered off automatically after 10 minutes with no key operation. For details, please refer to 15 Setting Auto Power Off.

6. CALIBRATION

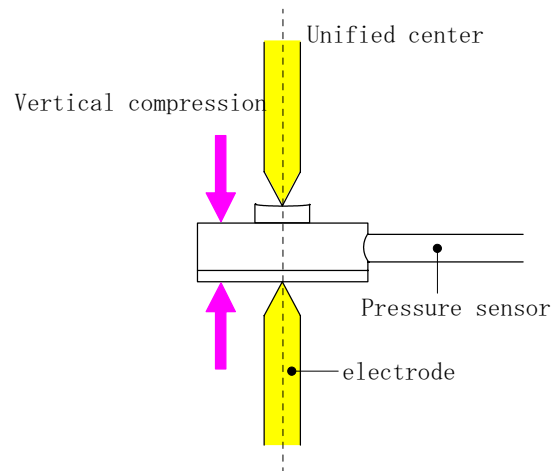
Install the gauge at the position of measurement according to the requirements. Then press the Zero Key (ZERO) to calibrate the gauge, the value of 0 comes out on the display.

* When the weight of the used fixture is more than 20% of the range, or the load of the gauge is more than 20% of the range, the gauge is not able to be calibrated. In this case, it is necessary to use a lighter fixture or remove the load, then calibrate.

7. REAL TIME MEASUREMENT MODE & PEAK HOLD MODE

Two kinds of measurement modes can be set for this gauge, the Real Time Measurement Mode and the Peak Hold Mode.

When there is no peak indicator "MAX" on the display, it is in the Real Time Measurement Mode. The displayed test value changes according to the load.



Safe Load	150%FS (Buzzer Alarm Over 110%FS)
Power Supply	2x1.5 AA(UM-3) Battery or 5V DC Power Supply
Operating Conditions	Temperature: 0°C~40°C
	Humidity: <80%
Surrounding	No Vibration Source or Corrosive Medium Around
Case Size	175mmx80mmx36mm
Sensor Size	268mmxφ44.6mm

3.1 ACCESSORIES

Standard Accessories	Host
	Manual
	Carrying Case
Optional Accessories	Power Adapter

4. STRUCTURE DESCRIPTION

4.1 Overall Structure

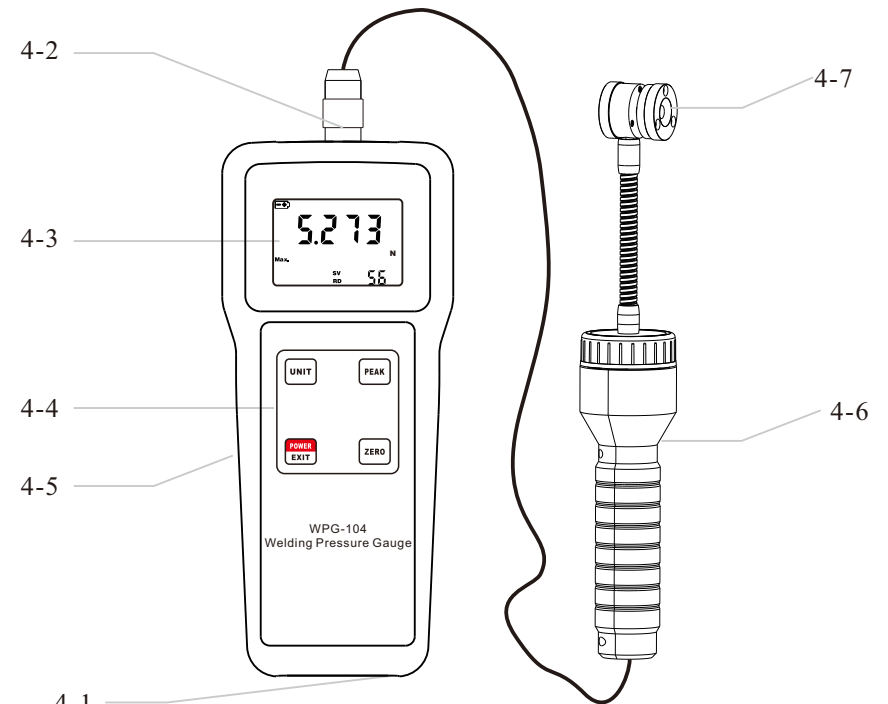


Fig 1 Overall Structure

Function Description Of Overall Structure

4-1 Power Interface

It can be connected with 5V DC Power for power supply.

4-2 Sensor Plug

It is used to connect main unit and sensor.

4-3 Display

It is used to display the readings of measurement, units of measurement, the indications of the operation, etc.

4-4 Operation Key Area

All operation keys are distributed on this area. Thus, all keys of the gauge can be found here.

4-5 Battery Case On The Back

The place to install batteries, for battery supply.

4-6 Handle

For hand grip, easy to operate

4-7 Sensor

It is used to convert the received force information into electrical signals to main unit.

4.2 Display

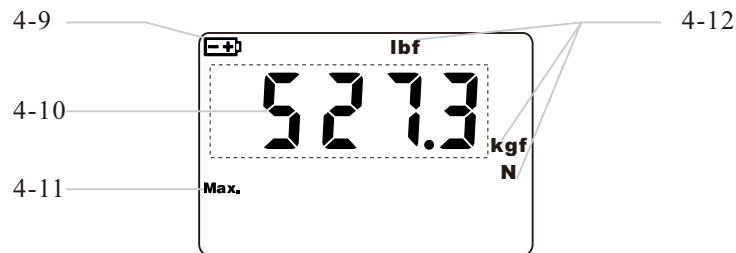



Fig 2 Display

Function Description Of Display

4-9 Battery Indicator ' '

When the battery voltage is low, '  ' comes on the top left corner of the display, indicating it is lack of voltage and the batteries need to be replaced.

4-10 Displayed Reading

In this gauge, the pushing force is a positive value (not shown "+");

4-11 Peak Value Indicator MAX.

When the indicator 'MAX.' comes, it indicates that it is in Peak Value Hold Mode, in which the displayed reading is the peak value during measurement. When the indicator 'MAX.' does not come, it indicates that it is in Real Time Measurement Mode, in which the displayed reading changes according with the applied load.

4-12 Measurement Unit

It indicates the current measurement unit, which includes 'kgf', 'gf', 'N', 'lbf'.

4.3 Operation Key

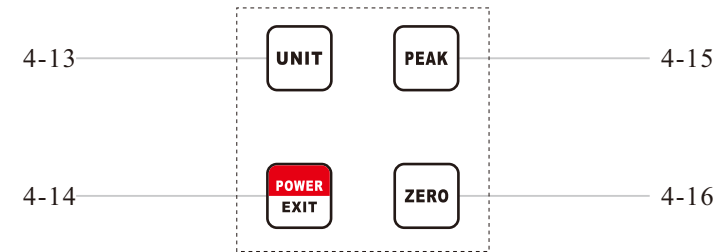


Fig.3 Operation Key

Function Description Of Operation Key

4-13 Unit Conversion Key(UNIT)

It is the key for unit conversion.

4-14 Power/Exit Key(POWER/EXIT)

It is the key for powering on/off the gauge. Also, it is the key for exiting from Data Scanning Mode. What's more, it is the key for going into the Auto Power Off Settings.

4-15 Peak Value Key(PEAK)

It is the key for conversion between the Peak Value Hold Mode and the Real Time Measurement Mode.

4-16 Zero Key(ZERO)

It is the key for zero calibration of the gauge.

5. POWER ON & POWER OFF

5.1 Power On

Install the batteries correctly or plug in the DC power supply. Then press the Power/Exit Key(POWER/EXIT) to power on the gauge.