CWY50 Digital Pressure Gauge

Product Manual

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ONE: Overview of the Products

CWY Series Precision Digital Pressure Gauge is the latest intelligent high-accuracy pressure gauge which were researched and developed by our company: Creat Wit. CWY digital pressure gauge is mainly composed of the pressure sensor and the circuitry of the signal processing. Pressure sensor adopted the imported sensor which is superior performance, such as high accuracy, corrosion resistance, impact resistance, anti-vibration, high stability and so on; signal processing circuitry adopted the latest ultra-low-power processors, signal processing chip and power management chips; using large-capacity and high-performance lithium battery power supply. This small-size instrument looks nice and quite easy to operate.

According to the pressure performance, CWY digital pressure gauge can be divided into three, which are vacuum, positive pressure and hydraulic.

According to the pressure range, it can be divided into: micro-pressure, low-pressure and high pressure. It is mainly applied in a variety of metrology departments for calibrating various differential pressure transmitter, pressure transmitter, pressure meters and some other pressure calibration equipments.

TWO: Technical Parameters

1. Measure range:（-0.01~100）MPa.

2. Signal output: 4-20mA.

3. Accuracy level: 0.1, 0.2, 0.5.

4. Display: 4 digits dynamic display + percentage indicator

5. Overload pressure: 120%

6. Turn-off current: less than 20μA.

7. Power supply: 3.6V large-capacity Li battery (life from 2~3 years).

8. Media temperature: -45℃~120℃.

9. Operating environment:

Temperature: -10℃~50℃;

Humidity: ≤85%RH;

Reference environment correction: 20℃±2℃.

10. Temperature compensation range: 0℃~50℃

11. Explosion protection grade: ExiaⅡCT4.

12. Protection grade: IP65.

13. Process connection: M20×1.5 (male thread); please specify if ordering other size.

THREE: Operation introduction of the instruments panels and keys

Functions under the sampling process:

Attention: Please use special magnetic pen to operate the instrument.

- Scan the key with magnetic pen less than 1 second is "short scan"
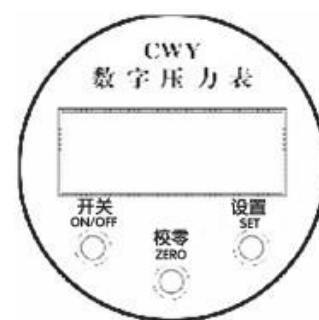- Scan the key with magnetic pen more than 1 second is "long scan"

"Switch "key   "Set"key   "Cal-0" key

"Switch" key: turn on and off the machine. The instrument can be closed if we do not use; in doing so, power consumption can be reduced. Scanning this key, the starting point and the full measure range point of this instrument can be displayed within 2 seconds; the instrument is under measuring mode at this moment. Again, scanning this key for 2 seconds, the instrument comes into shutdown mode.

"Set" key: there are two functions about this button, which are "Peak Value Keeping" and "Unit Exchange".

If "Peak Value Keeping" is required, please short scan "Set" key, and the instrument will display only the maximum value of the pressure.

If "Unit Exchange" is required, please short scan the "Set" key, it can easily exchange the units between KPa and MPa (and so on) according to the requirement of the customers. If the unit exchange is not necessary, please short scan the "set" key again and exit. Then the instrument is

ready to work. (The two functions: "Unit Exchange" and "Peak Value Keeping" can be choose only one according to the requirement from the customers).

"Zero" key: correct the numbers (error zero) to zero. When incorrect zero of the instrument occurs (because of the temperature changing), just short scanning this key, it can correct the zero-pressure automatically. If it displays "CAL-0", zero calibration is ok. If it displays "ERROR", it means there is error occurring on this instrument.

"Backlight": use "Switch" key to turn on backlight function, after 5 seconds, it will be closed automatically.

Four: Calibration

Attention:

 1. Please use special magnetic pen to operate the instrument.

● Scan the key with magnetic pen less than 1 second is "short scan"

● Scan the key with magnetic pen more than 1 second is "long scan"

2. Forbid to enter calibration interface without standard instrument or professionals.

3. Please use two magnetic pens to calibrate the digital pressure gauge.

4.Please place the gauge at 20 ℃ for 2 hours before pressure calibration.

1.Turn off the instrument, then please place a magnetic pen on "Zero"key, then long scan "Switch" key, the screen displays 【--】 to enter password entry interface.

2. In password entry interface, please type "21" to start calibration, password operation is as follows:

"Switch" key: short scan means digits loop+

"Set" key: short scan it to confirm password. If password is wrong, the instrument will not react. Long scan it to exit password entry interface.

"Zero" key, Short scan it to switch input digit.

3. After the password is entered correctly and confirmed, the pressure gauge enters the calibration interface and displays the pressure calibration point. The key functions under this interface are as follows:

"Switch" key: short scan it to exit calibration interface.

"Zero" key: short scan it to calibrate pressure.

"Set" key: Short scan it to switch calibration points.

Operation is as follows:

Place the gauge on the standard pressure equipment (e.g. deadweight tester), pressure the tester to a calibration pressure to calibrate after pressure is stable. The pressure gauge will automatically jump to the next point after this calibration is finished, until all the pressure calibration points are finished, then short scan "Switch" key to exit.

For pressure gauge (Gauge type) zero calibration, please take it from standard pressure instrument, then place sensor interface vertically to calibrate the gauge.

Five: Usage Requirement

(1) This is an essential safe explosion-proof instrument without other essential safe equipments connected.

(2) After opening the box, check the instruction, attachment and certificate; also make sure it is the correct specification compared to the nameplate.

(3) Please read the instruction carefully before installation; calibrate and check the instrument carefully according to the technical indicators.

(4) Install and operate strictly according to the requirements in the instructions.

(5) Forbidden to change or remove any components and structures which may affect the safe explosion-proof, such as the electronic batteries and the related components.

(6) Switch off the power when the instrument is not working, in doing so the battery life can be extended.

(7) There should be good ventilation environment when users replace the batteries; make sure there is no gas leaked and use the same model batteries.

Six: Installation Requirement

1. Because of the high-accuracy metrology equipment, this instrument should be maintained and operated under the good ventilation area which is easy to observe.

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2. CWY series metrology instrument should be installed perpendicularly to the ground because of the high-accuracy.

3. When install CWY series high-accuracy digital pressure gauge, it is necessary to install another seal copper backing.

4. This series of instruments are able to use together with the desktop pressure pump (Pay attention to the matches of pressure range).

Seven: Storage and Transportation

1. This product should be stored in the environment of -40 ℃ ~ +80 ℃ temperature and less than 90% relative humidity; And make sure there is non-corrosive gas.

2. The product is collected in one package together with the certificate, instructions and the test report. There should be non-strong collision during the whole transport process.

Eight: Order Instructions and Technical Services

1. In order to select the appropriate structure range, when ordering, the users need to provide the pressure measurement range, the accuracy requirements, the type of signal output, and any other special requirements.

2. Because of the personal problems of the products, if digital pressure gauge does not work, our company is responsible for one year free repair or replacement.

3. In order to ensure the users' repair and maintenance, our company provides the software update services on various accessories and digital pressure gauge.

Nine: Notice of Usage

(1) When the real pressure value is "0", but the display is not "0", in order to get the correct measurement, please click "reset" to do "zero-correction". If it still displays "ERROR", it means the instrument is destroyed.

(2) Before installing the digital gauge on the equipment, please check whether the gauge is clean; keep the pipeline clean during the operation process.

(3) Although the overload pressure allowance is 1.2 times during the whole operation process,

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the period cannot be too long in order to ensure the measure accuracy.

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