

HQYLJ - DQ

High Precision Pressure Calibrator



Hongqi Automatic Control (Jiangsu) Co., LTD



1 · overview

1.1 Pressure calibrator for AC and DC dual purpose portable instrument, in the measurement of pressure at the same time, can measure the current, and the pressure current can be displayed at the same time, the instrument and has 24VDC output, coupled with the front panel installed pressure pump, making it an ideal field calibration instrument.

2 · special point

2.1 Constant current charging, with overcharge/undervoltage automatic shutdown automatic protection function of battery voltage, to ensure that the battery is not damaged due to overcharge or undervoltage, to ensure long battery life.

2.2 The instrument has an over-range alarm function. a. When the pressure exceeds the rated full range +2500 words, the instrument buzzer will emit an alarm sound, indicating that the pressure exceeds the upper limit of the range, the pressure must be stopped, and part of the pressure must be removed to make it within the specified range to prevent damage to the pressure sensor. b. When the current measured by the instrument exceeds 22mA, the instrument buzzer will emit an alarm sound, indicating that the measured current exceeds the upper limit of the range.

2.3 The front panel is equipped with a manual pressure generator, which can reach -0.095 ~ 2.0MPa, and is equipped with a fine-tuning and cooling valve. Manual



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vacuum occurs up to 95%. The pressure generator parts are finely ground, good air tightness, and meet the IP54 sealing standard.

Selection method

Standard	—	型 号	—	Type	Accessory function	Instructions
JB						Product standard JB/T7392-94
	--					undefined
						Pressure calibrator
			--			undefined
						Portable pressure source (multi-range)
						Liquid crystal double display type
						Portable with pressure source air pressure
						Widescreen has its own stressors
						Portable with hydraulic pressure source
					R	RS232port
					J	Measurement data memory
					A	Multi-range, multi-module

Range range

Micro pressure	-6~6-16~16KPa
Medium voltage	-25~25 -60~60 -100~100 0~160KPa
High tension	0~0.25 0~0.4 0~0.6 0~1.00~1.6 0~2.5 0~4.0 0~6.00~100~16 0~25 0~5 0~60MPa



Note: 1. Pressure calibrator internal pressure source, range: -95kPa~0~2.0MPa (air pressure) 0~ 25MPa, 0~40MPa(hydraulic pressure) larger range is discussed separately.

2. It is not indicated in the table. But clients have special requirements. Please specify the specific range and requirements when ordering.

3. Main technical indicators

3.1 Pressure range: -95KPa~2.0MPa 0~40MPa

3.2 Resolution: min 1PA(pressure) min 1UA(current)

3.3 Current measurement range: 0~22MA

3.4 DC Output: 24VDC

3.5 Accuracy: 0.1%F.S 0.05%F.S (pressure)

3.6 Temperature range: 5~50 ° C

3.7 Charging power working time: 8 hours

3.8 LCD pressure and current display simultaneously

3.9 Relative humidity: not more than 80%RH

3.10 Overload Capacity: 1.2-1.5 times full scale

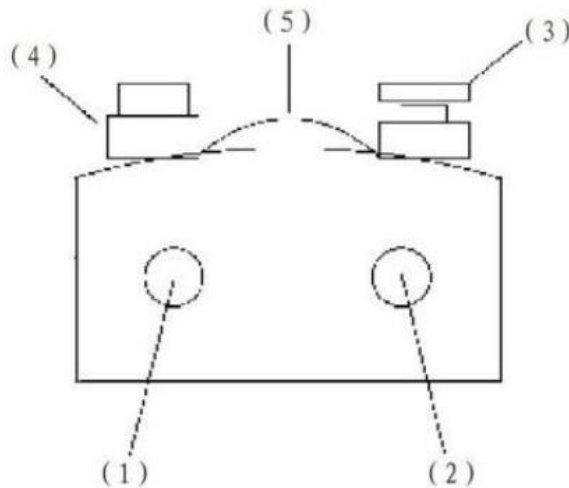
3.11 Dimensions: 240*80*140mm

3.12 Weight: 2.5Kg

3.13 Power consumption: 2~3VA

4. Familiar with the calibrator

4.1 Front Panel Figure 1 shows the front panel of the calibrator. The use of each component of the front panel is as follows: Figure 1



(1) Pressure fine-tuning When calibrating the instrument to be calibrated, the pressure fine-tuning mechanism can be rotated left and right to make the output pressure reach the best value.

(2) hand pump A. Pushing the hand pump can produce a certain pressure value, when using the hand pump, first understand the measuring range of the instrument, and look at the pressure change of the display screen when pressurizing. When the instrument has a beep alarm, the pressurization should be stopped immediately and the air valve should be opened. b. When measuring negative pressure, pull the hand pump to produce a certain negative pressure value. c. Below 20kPa, use fine adjustment pressure, no hand pressure pump.

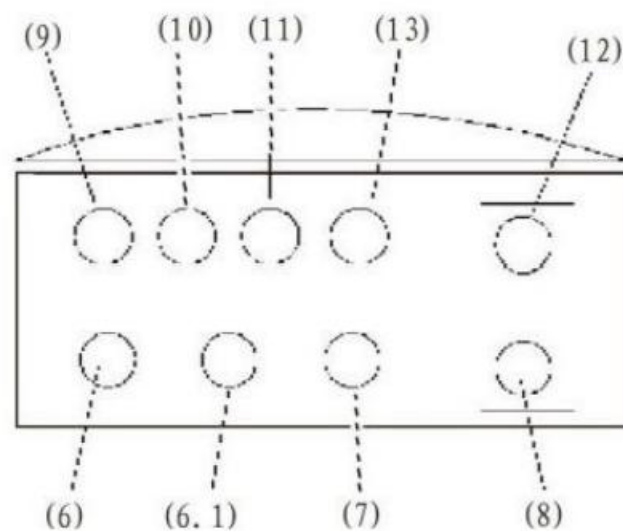
(3) Air relief valve The air relief valve is designed to provide pressure relief for the calibrator. When pressurizing, it should be rotated clockwise to the end, and the vent

valve is closed. When relieving pressure, the vent valve is opened by rotating counterclockwise.

(5) Handle handle for use when the calibrator is out

4.2 Rear Panel

Figure 2 shows the rear panel of the calibrator. The use method of the components on the rear panel is as follows: Figure 2



(6) Multi-purpose pressure interface

A provides pressure relief output (when there is no positive and negative pressure output in a single range)

B provides pressure verification output (when positive and negative pressure output at the same time); Multi-range, multi-module)

(6.1) Module interface (multi-range, multi-module)



(7) Air discharge port

(8) Charging hole When the instrument is powered externally, use the external charging power supply. When the external power supply is connected, the CHG light next to the LCD of the instrument is red, and the CHG light is green when the instrument is charged.

(9) Measuring hole measuring transmitter + 24VDC output +

(10) The common end

(11) measuring hole measures the current output of the transmitter +

(12) Power switch Instrument power switch, "1" position to turn on the instrument power switch, "0" position to turn off the instrument power switch.

(13) RS232 interface (when required by customers) Module signal line interface (multi-range, multi-module)

5. Prepare for use

5.1 The calibrator is powered by the external power supply and the internal 6V rechargeable power supply. When the external power supply disappears, the internal 6V rechargeable power supply will be automatically put into use. The calibrator can be charged while working by the external power supply. Charging power supply Working time Continuous working no 24V loop power supply 16 hours continuous working 24V loop power supply 8 hours intermittent working 18 hours 5.2 24V loop power supply The 24V loop power supply provided by the calibrator is built-in, and



the 2-wire current circuit is automatically connected into the calibrator without additional wiring. If the calibrated instrument is powered by an external power supply, it cannot be connected to the 24V power supply of the calibrator, otherwise it will burn the instrument.

5.3 Measuring medium

The ideal measuring medium of the calibrator is dry, non-corrosive gas. If corrosive gas or dirty liquid enters the calibrator, it will adversely affect the sealing performance and calibration data of the calibrator. Therefore, before verifying the instrument, it should be confirmed that the residual media in the instrument being calibrated is drained.

6, The use of

Connect all wires correctly, screw the pressure tube to the pressure connector on the front panel, such as the instrument with negative pressure, the pressure connector on the back panel of the instrument, and tighten it.

6.1 Power switch key: press the "On" key, LCD display instrument model, pressure range and accuracy, and then automatically enter the measurement state.

6.2 Zero Calibration key: Press the zero calibration key before each measurement, and the instrument will automatically collect the zero value of the sensor and send it to the CPU for processing to ensure the authenticity of the instrument measurement data.

6.3 Pressure key: Press the key repeatedly to realize the conversion between pressure/current display, pressure/millimeter water column or pressure/kg force. If



the LCD displays the current measurement state, press the key, and the meter will automatically change to the pressure measurement state.

6.4 Current key: Press this key repeatedly to realize the conversion between the pressure/current display and the percentage of current. When the current of the instrument needs to be detected, press this key and the measured current value will be displayed on the LCD. 6.5 Backlight key: When the instrument works in an environment where the light line is weak, press the key to turn on the backlight for easy reading.

6.6 Measuring instrument current: When output 24VDC or calibrating transmitter, please connect according to the wiring method indicated on the rear panel of the instrument.

6.7 Charging power supply: The instrument is equipped with an external switching power supply for charging. The battery in the instrument can be charged when the mains power supply is 220VAC and the instrument power switch is turned on. When the charging indicator is red, the instrument is in the charging state; When the charging indicator light is green, it indicates that the battery is full, and the charger can be unplugged.

6.8 Pressure output: When verifying the transmitter or other online instrument, screw the transmitter or other online instrument into this interface to achieve detection. If the interface is blocked, the sealing ability of the pressure source inside the instrument can be detected.



6.9 When the instrument is equipped with negative pressure, the positive and negative pressure transfer switch is on the chassis (4). For example, when detecting negative pressure, the transfer switch is converted to negative pressure and the verified instrument can be connected to the pressure outlet.

6.10 Air pump and fine tuning: The air pump is a manual pressure system. When the pressure display is close to full scale, fine tuning is performed to adjust the display value.

6.11 If the measuring range of the instrument is large (250KPa~2.5MPa), the pressure outlet is on the housing (4), and the pressure outlet is on the rear plate.

6.12 If the instrument has multiple ranges and modules, tighten the pressure module on the interface of (6.1) module, connect the module to the interface of (13) module with a signal cable, and start up, the instrument will display the range of the selected module.