

HX708B Portable Multifunctional Process Calibrator

Overview

Powerful and high-precision, suitable for maintenance and calibration of all on-site thermal signals, HX708B is a multifunctional intelligent comprehensive calibrator designed by HAOXUN Technologies. It capable of outputting and measuring standard signals such as current, voltage, frequency, thermocouple, resistance temperature, etc

It can be applied in various measurement scenarios by pressure module, temperature and humidity sensor, and pH Measurement Module. It is widely used in industries such as aviation, power, petrochemical, metallurgy, transportation, building materials, manufacturing, and measurement institutions.



Feature

❖ This calibrator complies with the following national regulations:

- 《JJF1664-2017 Calibration specification for temperature display instruments》
- 《JJG 617-1996 Verification regulation of digital temperature indicating and regulating instruments》
- 《JJG 951-2000 Verification regulation of analog temperature indicating regulators》
- 《JJG 874-2007 Verification regulation of temperature indicating control instruments》
- 《JJG74-2005 Verification regulation of industrial process measurement recorders》
- 《JJG186-1997 Verification regulation of dynamic coil temperature indicating (indicating position adjustment) instruments》
- 《JJF1183-2007 Calibration Specification for Temperature Transmitters》
- 《JJF1309-2011 Calibration specification for temperature calibrators》
- 《JJG 49-2013 Verification regulation of precision pressure gauges》
- 《JJG 52-2013 Verification regulations for general pressure gauges, pressure vacuum gauges, and vacuum gauges》
- 《JJG 882-2004 Verification regulation of pressure transmitters》
- 《JJG 875-2005 Verification regulation of digital pressure gauges》
- 《JJG 119-2018 Verification regulation of laboratory pH (acidity) meter》
- 《JJF 1547-2015 Calibration specification of online pH meter》

❖ Simultaneously outputting and measuring multiple standard signals such as V, mV, mA, Ω, Hz, as well as precise simulation and measurement of temperature signals from various thermocouples (TC) and Resistance Temperature (RTD).

❖ **Optional** expansion of external acidity meter calibration module for use as high-precision pH (acidity) meter calibration instrument

❖ **Optional** external digital pressure module for use as high-precision pressure calibrator, pressure range : -0.1~60MPa

❖ **Optional** extended external temperature and humidity sensor can be used as high-precision temperature hygrometer, humidity accuracy better than 2% RH.

- ❖ Directly distribute 24V power while outputting and measuring 4-20mA, and provide 24V DC independent power supply mode
- ❖ When calibrating the transmitter to measure its circuit signal, it can display current parameters and corresponding temperature or pressure parameters, without conversion.
- ❖ Large backlit LCD screen with up to seven digits display, high resolution output and measurement (mV resolution: $1\ \mu\text{V}$, Ω resolution: $1\text{m}\Omega$)
- ❖ The highest accuracy level of the electrical signal is 0.01 level, the factory internal control accuracy is $\pm 0.005\%$ FS, and the highest pressure accuracy is 0.02 level
- ❖ Good stability, automatic correction of internal temperature system of the instrument, minimum temperature coefficient $\pm 3\text{ppmFS}/^\circ\text{C}$
- ❖ Fully enclosed membrane touch button, with an ultra long service life of 500000 to 1 million times
- ❖ Supports Ω (Resistance Temperature) signal output and measurement in two, three, and four wire systems
- ❖ All signals can automatically step and ramp output, and any step point and step time can be set
- ❖ External high-precision cold-junction compensation probe, capable of manual or automatic cold-junction compensation and setting
- ❖ Adopting large capacity and high-performance rechargeable batteries, with a continuous working time of more than 10 hours
- ❖ Standard gold-plated testing line, less introduction of contact potential and contact resistance, ensuring high-precision calibration
- ❖ Three year warranty for the main engine, free accuracy correction, and lifelong after-sales guarantee
- ❖ Compact size, easy to carry, with an earthquake resistant and drop resistant silicone shell to avoid accidental damage. Volume: $205\times 105\times 35\text{mm}$, weight: 500g.

Measurement function specifications (accuracy level: 0.02level)

	Range	Accuracy (%RD+%FS)	Resolution	Note	Temperature coefficient
Output	10.99999 V	0.01% + 0.004%	10μV	Maximum burden current: ≤ 2 mA	±3ppm/℃
	1.099999 V		1μV		
	±109.999 mV	0.01% + 0.004%	1μV		±5ppm/℃
	30.0999 mA	0.01% + 0.004%	0.1μA	Maximum burden resistance: ≤800 Ω	±3ppm/℃
	4000.00 Ω	0.01% + 0.008%	10mΩ	exciting current: 0.05 mA ~ 1 mA	±5ppm/℃
	400.000 Ω		1mΩ	exciting current: 0.5 mA ~ 10 mA	
	59999.9 Hz	0.008% + 0.002%	0.1Hz	Output waveform: square wave, sine wave Output amplitude: 0.1 V ~ 10.0 V Maximum burden current: 2 mA	±3ppm/℃
	5999.99 Hz		0.01Hz		
	599.999 Hz		0.001Hz		
	simulation thermocouple	Check the specifications below	0.01℃	TC: J, K, T, E, R, S, B, N, WRe3-25, WRe5-26	±5ppm/℃
	simulation Resistance Temperature	Check the specifications below	0.01℃	RTD: Pt100, Pt1000, Cu50, Cu100, G, BA1, BA2, BA3	
	pH	±0.0005pH	0.0001pH	1G, 3G High resistance	±5ppm/℃
	24V DC	10%	——	Maximum burden current: ≤65mA	±5ppm/℃
Measurement	±109. 9999 V	0.01% + 0.004%	10μV	Impedance: 1 MΩ	±3ppm/℃
	±10. 99999 V		10μV	Impedance: 500 MΩ	
	±1. 09999 V		10μV		±5ppm/℃
	±109.999 mV	0.01% + 0.004%	1μV	Impedance: ≤8 Ω	±5ppm/℃
	±109.999 mA	0.01% + 0.004%	1μA		
	±23.9999 mA		0.1μA		
	4000.00 Ω	0.01% + 0.008%	10mΩ	exciting current: 0.5 mA	±5ppm/℃
	400.000 Ω		1mΩ	exciting current: 1 mA	
	59999 Hz	0.008% + 0.002%	1Hz	——	±3ppm/℃
	5999.9 Hz		0.1Hz		
	599.99 Hz		0.01Hz		
	99.999 Hz		0.001Hz		
	thermocouple	Check the specifications below	0.01℃	TC: J, K, T, E, R, S, B, N, WRe3-25, WRe5-26	±5ppm/℃
	Resistance Temperature	Check the specifications below	0.01℃	RTD: Pt100, Pt1000, Cu50, Cu100, G, BA1, BA2, BA3	
	Digital pressure module	Accuracy :0.02%FS or 0.05%FS; range: -100kPa~60MPa; optional			
	temperature and humidity sensor	Humidity accuracy: 2%RH, Temperature Accuracy: 0.3℃, optional			

Thermocouples specifications

Type	Source or Measure	
	temperature range	accuracy
K	-240 ~ 0℃	±0.40℃
	0 ~ 1372℃	±0.30℃
E	-240 ~ 0℃	±0.40℃
	0 ~ 1000℃	±0.30℃
N	-240 ~ 0℃	±0.40℃
	0 ~ 1300℃	±0.30℃
J	-200 ~ 0℃	±0.40℃
	0 ~ 1200℃	±0.30℃
T	-240 ~ 0℃	±0.40℃
	0 ~ 400℃	±0.30℃
S	-50 ~ 0℃	±0.80℃
	0 ~ 1768℃	±0.60℃
R	-50 ~ 0℃	±0.90℃
	0 ~ 1768℃	±0.60℃
B	0 ~ 1820℃	±0.70℃
WRe3-25	0 ~ 2315℃	±0.70℃
WRe5-26	0 ~ 2315℃	±0.70℃
NOTE: Resolution: 0.01℃		

OTHERS

operate temperature	-10℃ ~ 55℃
storage temperature	-20℃ ~ 70℃
cold-junction compensation	-30℃ ~ 70℃

Resistance Temperature specifications

Type	Source or Measure	
	temperature range	accuracy
Pt100	-200 ~ 0℃	±0.10℃
	0 ~ 850℃	±0.10℃
Pt1000	-200 ~ 0℃	±0.10℃
	0 ~ 850℃	±0.10℃
Cu50	-50 ~ 0℃	±0.20℃
	0 ~ 150℃	±0.20℃
Cu100	-50 ~ 0℃	±0.25℃
	0 ~ 150℃	±0.20℃
G	-50 ~ 0℃	±0.25℃
	0 ~ 150℃	±0.20℃
BA1	-200 ~ 0℃	±0.40℃
	0 ~ 650℃	±0.30℃
BA2	-200 ~ 0℃	±0.25℃
	0 ~ 650℃	±0.20℃
BA3	-50 ~ 0℃	±0.15℃
	0 ~ 100℃	±0.10℃
PRT adjustable	CVD Temperature measurement, RTPW, A, B, C in	
NOTE: Resolution: 0.01℃		

Accessories

1. Instructions, Certificate of conformity, Warranty card, Rechargeable battery, Charger, Cold-junction compensation probe, 24V DC output wire, Test lead kit, Instrument backpack, etc.
2. Secondary calibration software (optional)
3. Digital pressure module (optional), Temperature and humidity sensor (optional), pH Measurement Module (optional).
4. Calibration Certificate of Third Party Metrology Institution (extra charge).