

# VIEW 810/830

BELIEVE YOUR EYES

## BATTERY TESTER, HIGH-PRECISION & HIGH-RESOLUTION

- Wide resistance range:  $3\text{m}\Omega$ - $3000\Omega$
- High-precision voltage measurement: precision  $0.01\%\text{rdg.} \pm 3\text{dgt.}$
- Be capable to measure high voltage battery packs up to  $300\text{V}$  (VIEW 830)
- Height measurement with  $10\text{ms}$  of response time +  $20\text{ms}$  of sampling time



You dream,  
We DESIGN

# 4TECT

OOO «4TECT»

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## I DESCRIPTION

The VIEW810/830 battery tester is a high-precision, high-resolution battery tester. It is widely used for testing various batteries such as lithium batteries for mobile phones, storage batteries and power batteries. With the AC four-terminal test method, the internal resistance and voltage of the battery can be tested more precisely. With the built-in comparator function, it can automatically check whether the battery parameters meet the standard, so as to calculate the pass rate. It is suitable for testing and sorting all kinds of batteries.

## I MEASUREMENT OBJECT AND PURPOSE

- **Be used for high voltage battery pack inspection**
- **Be used for battery module inspection**
- **Be used for the inspection of large (low impedance) components**
- **Be used for high speed mass production inspection of button batteries**
- **Be used for fuel battery pack measurement**
- **Be used for battery research, development and measurement**
- **Be suitable for high speed mass production inspection of small battery pack of mobile phone/portable electronic products**
- **Be suitable for high speed mass production inspection of small components**

## I FUNCTIONAL ADVANTAGES AND FEATURES

### AC four-terminal test method

The impedance measurement adopts AC four-terminal method, which is not affected by the wiring impedance of the test line.

### High-precision measurement

Resistance:  $\pm 0.4\% \text{rdg.} \pm 5 \text{dgt.}$

Voltage:  $\pm 0.01\% \text{rdg.} \pm 3 \text{dgt.}$

### High resolution display

Resistance:  $0.1 \mu\Omega$

Voltage:  $10 \mu\text{V}$

### Storage function

The measurement results (data) can be stored in the instrument memory or U flash disk in CSV format or MAT format, and the data stored in the memory can also be exported to U flash disk, so that the measurement results of the corresponding time can be viewed at any time.

### Comparator function

- **Resistance and voltage can be checked simultaneously**

With the independent comparison functions of resistance

and voltage, Pass/Hi/IN/Lo can be judged. The results can be checked through screen display, beeping, external I/O output. The judgment results of both parties can be checked through image display at the same time.

- **Comprehensive judgment results output**

In addition to the respective judgment results of resistance and voltage, the comprehensive judgment results can be output to the external I/O.

- **Two setting methods**

The following 2 modes can be set. Hi/Lo is set according to the respective upper and lower limits and the deviation (%) of any standard value.

- **Manual comparison**

There are manual comparison method and automatic comparison method. The instrument adopts automatic comparison method by default. Only when EXT I/O is ON in manual comparison mode, the results of output comparator is suitable for pedal switch, PLC control and other occasions.

- **Four kinds of beeping**

Beeper settings include OFF, HL, IN, BT1 and BT2 modes. In BT1 and BT2 modes, IN or Hi/Lo can be set to different beeps.

### Statistic function

Calculate statistical indicators according to the measurement results, draw the normal distribution map, observe the normal distribution of the measurement results.

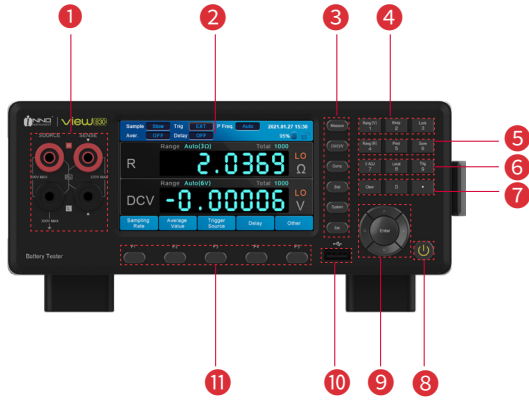
### Correcting function

Be used to compensate the offset voltage or gain drift of the internal circuit of the instrument to improve the test precision. There are automatic calibration and manual calibration. In the automatic correction mode, correction shall be conducted automatically once every 30 minutes; In manual mode, correction can be performed manually through Ext I/O and communication commands. During calibration, the measurement processing shall be suspended and the instrument shall be automatically corrected by default.

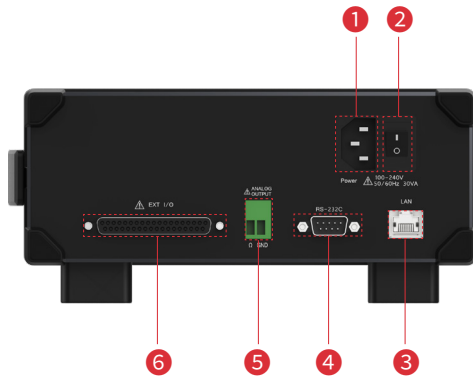
### Analog output function

With VIEW810/830 battery tester, analog output of the resistance measurement value can be conducted. By connecting the analog output quantity to the recorder, the change of the resistance value can be recorded. It is convenient to use the data acquisition instrument for long-term recording measurement and fuel battery evaluation.

## PRODUCT OVERVIEW



- 1 Input port
- 2 Display
- 3 Measurement function menu key/measurement mode switch key  
Compare function menu key/ statistics menu key  
System setting menu key/cancel/back key
- 4 Voltage range key/volume key/locking key
- 5 Resistance range key/print shortcut key/save setting key
- 6 Reset key/cut-off remote control key/manual trigger key
- 7 Clear key/ 0 key/• key
- 8 On-off key
- 9 Confirm key and direction selection key
- 10 USB interface
- 11 Softkey



- 1 Electric power line interface
- 2 Power switch
- 3 Ethernet interface
- 4 RS-232C interface
- 5 Analog output interface
- 6 EXT I/O interface

## SPECIFICATION PARAMETERS

### Basic parameters

Item	Specification
Measuring items	Resistance, voltage
Test method	AC four-terminal test method
Functionalities	$\Omega/V/\Omega/V$
Voltage range	VIEW810:6V/60V VIEW830:6V/60V/300V
Resistance range	3m $\Omega$ /30m $\Omega$ /300 m $\Omega$ /3 $\Omega$ /30 $\Omega$ /300 $\Omega$ /3000 $\Omega$

Nominal voltage	Rated input voltage: DC $\pm$ 60V(VIEW810), DC $\pm$ 300V(VIEW830) Maximum rated voltage to ground: DC $\pm$ 60V(VIEW810), DC $\pm$ 300V(VIEW830)
Input impedance	DC input impedance 3M $\Omega$
Sample rate	FAST/MEDIUM/SLOW
Response time	Measurement response time: about 10ms
Total measurement time	Response time +sampling time
Zero set	Zero range: -1000~1000 counting values (resistance and voltage are the same), the zero range can be less than or equal to $\pm$ 1000 dgt.
Tigger	Internal trigger/external trigger/manual trigger
Mean Average	On /OFF, average number of time: 2~16 times
Delays	On /OFF, delay time: 0~9.999 seconds
Statistics	On /OFF/ reset, operation content: maximum value, minimum value, average value, sampling standard deviation, parent standard deviation, process capability index, etc.
Comparator	Compare mode: AUTO/MANUAL Beeper mode: OFF/HL/IN/BT1/BT2 Upper and lower resistance limits: 0~3000 $\Omega$ Upper and lower voltage limits: 0~60V(VIEW810)/0~300V(VIEW830) Resistance reference value: 0~3000 $\Omega$ Voltage reference value: 0~60V(VIEW810)/0~300V(VIEW830) Percentage: 0.00%~99.99%
Measurement output	The measured value can be transmitted to the computer in real time through RS-232C or LAN port
Memory	Maximum storage space 2.8G
Configuration storage and reading	Maximum storage of 200 groups, measurement configuration items: measurement function, resistance range, voltage range, delay, delay time, sampling rate, average value, average number, self-correction, trigger mode, power frequency, comparator, statistical operation function, judgment beeping of comparator, storage

### Sampling time

Functionalities		FAST	MEDIUM	SLOW
$\Omega V$	(50Hz)	40ms	80ms	320ms
	(60Hz)			
$\Omega$	(50Hz)	20ms	40ms	200ms
	(60Hz)			
V	(50Hz)	20ms	40ms	200ms
	(60Hz)			

### Measurement range and precision

#### Precision guarantee conditio

Temperature and humidity range: 23 $\pm$ 5 $^{\circ}$ C, below 80%rh (no condensation)

Zero setting: after zero setting

Preheating time: above 30 minutes

Automatic correction: when the sampling rate is not SLOW, it shall be corrected automatically after preheating.

Temperature change is within  $\pm 2^{\circ}\text{C}$  after automatic correction.

### Precision

The overall error is jointly determined by the reading error of the measured value and the digital error of the measured range.

For example:

Standard value:  $1\Omega$ , measuring span:  $3\Omega$

Based on the table below, the reading error is  $\pm 0.4\%$  rdg, digital error is  $\pm 5$  dgt, and the reading error ( $\pm\%$ rdg.) is  $1\Omega \times \pm 0.4\% = \pm 0.004\Omega$

Digital error ( $\pm$ dgt.): the current minimum resolution is  $0.0001\Omega$  range, so  $\pm 5$  dgt. =  $\pm 0.0005\Omega$

The overall error: reading error + number error, namely  $\pm 0.0045\Omega$

Based on the calculation, relative to the standard value of  $1\Omega$ , the precision range of the instrument is  $0.9955 \sim 1.0045\Omega$ .

### Impedance measurement

Range	3m $\Omega$	30m $\Omega$	300m $\Omega$
Maximum display value	3.1000m $\Omega$	31.000m $\Omega$	310.00m $\Omega$
Resolution	0.1 $\mu\Omega$	1 $\mu\Omega$	10 $\mu\Omega$
Measure current *1	100mA	100mA	10mA
Measurement current frequency	1kHz $\pm 0.2$ Hz		
Precision *2	$\pm 0.4\%$ rdg. $\pm 10$ dgt.	$\pm 0.4\%$ rdg. $\pm 5$ dgt.	
Temperature factor	(0.05%rdg. $\pm 1$ dgt.)/ $^{\circ}\text{C}$		( $\pm 0.05\%$ rdg. $\pm 0.5$ dgt.)/ $^{\circ}\text{C}$
Open port voltage	25V peak		

Range	3 $\Omega$	30 $\Omega$	300 $\Omega$	3000 $\Omega$
Maximum display value	3.1000 $\Omega$	31.000 $\Omega$	310.00 $\Omega$	3100.0 $\Omega$
Resolution	100 $\mu\Omega$	1m $\Omega$	10m $\Omega$	100m $\Omega$
Measure current*1	1mA	100 $\mu\text{A}$	10 $\mu\text{A}$	10 $\mu\text{A}$
Measurement current frequency	1kHz $\pm 0.2$ Hz			
Precision *2	$\pm 0.4\%$ rdg. $\pm 5$ dgt.			
Temperature factor	( $\pm 0.05\%$ rdg. $\pm 0.5$ dgt.)/ $^{\circ}\text{C}$			
Open port voltage	25V peak	10V peak		

\*1: measurement current error is within  $\pm 10\%$

\*2: Add  $\pm 2$  dgt. for FAST and  $\pm 2$  dgt for MEDIUM.

Add  $\pm 10$  dgt. for FAST and  $\pm 5$  dgt. for MEDIUM (3m $\Omega$  range)

! The Information on this catalog is subject to change without prior notice.

### VOLTAGE MEASUREMENT

Range	6V	60V	300V (View830)
Maximum display value	$\pm 6.00000\text{V}$	$\pm 60.0000\text{V}$	$\pm 300.000\text{V}$
Resolution	10 $\mu\text{V}$	100 $\mu\text{V}$	1mV
Precision	$\pm 0.01\%$ rdg. $\pm 3$ dgt.		
Temperature coefficient*3	( $\pm 0.001\%$ rdg. $\pm 0.3$ dgt.)/ $^{\circ}\text{C}$		

\*3: Add 2 dgt for FAST and 2 dgt for MEDIUM.

### External interface

Item	Specification
ANALOG OUTPUT	Screw terminal
Type A USB	Conform to USB Rev. 2.0 USB flash disk file format FAT32
EXT I/O	DB-37 (hole type)
RS-232	DB-7 (hole type), comply with EIA-574 (EIA-232(RS-23) 9-pin type standard)

### General features

Item	Specification
Preheating time	About 30 minutes
Working environment	0 $^{\circ}\text{C}$ ~40 $^{\circ}\text{C}$ , below 80%RH (no moisture condensation)
Storage environment	-10 $^{\circ}\text{C}$ ~50 $^{\circ}\text{C}$ , below 80%RH (no moisture condensation)
Operation place	Indoor
Working altitude	2,000m or below
Rated supply voltage	100~240VAC( $\pm 10\%$ )
Rated power supply frequency	50/60Hz( $\pm 2\%$ )
Maximum power consumption	35VA
Size	306mm*232mm*108.5mm
Weight	About 3kg

### Model and code

Name	Model No.	Instructions
Host	View810/830	Battery tester
	/CE	Ethernet interface
	/DA	Analog output (D/A) interface
Optional interface	/IO	EXT I/O interface
	BZ-1001	Zero setting panel
Optional components	BL-1001	Four-terminal test line (pin type)
	BL-1002	Four-terminal test line (clip type)