

Model

AX-163B

Ultra-high Accuracy and High Speed, Key Switch Type Digital Resistance Checker

Best Suitable for B, C, D, F, G, J, K classes, chip, melf, lead type resistance of sorting machine, and taping machine



- Ultra-precision: 10ppm resolution, Basic accuracy $\pm 0.005\% \pm 1$ digit
- High stability by the improvement of noise immunity for the isolated circuit between analog part and digital part.
- Ultra-high stability by the improvement of noise immunity, isolated circuit between analog part and digital part.
- Available to make the high speed and ultra-high stable measurement by the setting function of average time on measuring value for each range.
- Range of measurement for absolute value: $0.00m\Omega \sim 125.00M\Omega$ for $\%:5m\Omega \sim 109M\Omega$ [$\pm 10.000\% / -99.99\% \sim +25.00\%$]
- Available to select the function for contact check before or after the measurement, or function of non-contact check.
- RS-232C and Centronics interface are built-in as standard equipment. [GP-IB is option]
- Printer output as standard equipment. (Centronics)
- Transfer function of Setting data is built-in as standard equipment. (Available to transfer the same setting data to another set of AX-163B)
- The checking circuit of the abnormal measuring current and voltage is built-in.
- Measuring probe self-cleaning circuit [utility model]

Specifications

Measuring range and Accuracy (at $23^{\circ}C \pm 5^{\circ}C$). In a case of 180 days after calibration for half time, after 1 year for double

Measuring range	Setting range of standard value	Measuring current	Measuring accuracy		
			SLOW [Hi-Reso.]	SLOW [Lo-Reso.]	FAST [Lo-Reso.]
100m Ω	5m Ω ~ 109m Ω	180mA	within $\pm 0.01\% \pm \alpha$ $\pm 10d$	within $\pm 0.02\% \pm \alpha$ $\pm 2d$	within $\pm 0.03\% \pm 2\alpha \pm 3d$ $\pm [2/(1+n)] d$
1 Ω	109.1m Ω ~ 1.09 Ω	180mA	within $\pm 0.005\% \pm \alpha$ $\pm 3d$	within $\pm 0.02\% \pm \alpha$ $\pm 1d$	within $\pm 0.02\% \pm \alpha \pm 2d$ $\pm [2/(1+n)] d$
10 Ω	1.091 Ω ~ 10.9 Ω	90mA			
100 Ω	10.91 Ω ~ 109 Ω	18mA	within $\pm 0.005\%$ $\pm 1d$	within $\pm 0.02\% \pm 1d$	within $\pm 0.02\% \pm 2d$ $\pm [1/(1+n)] d$
1k Ω	109.1 Ω ~ 1.09k Ω	9mA			
10k Ω	1.091k Ω ~ 10.9k Ω	0.9mA			
100k Ω	10.91k Ω ~ 109k Ω	90 μ A			
1M Ω	109.1k Ω ~ 1.09M Ω	9 μ A	within $\pm 0.007\%$ $\pm 1d$	within $\pm 0.03\% \pm 1d$	within $\pm 0.05\% \pm 2d$ $\pm [1/(1+n)] d$
10M Ω	1.091M Ω ~ 10.9M Ω	0.9 μ A	within $\pm 0.02\%$ $\pm 10d$		within $\pm 0.2\% \pm 4d$ $\pm [1/(1+n)] d$
100M Ω	10.91M Ω ~ 109M Ω	0.09 μ A	within $\pm 0.1\%$ $\pm 20d$	within $\pm 0.1\% \pm 2d$	----

d: digits n: Averaging time (msec), $\alpha = [100 / \text{setting value (m}\Omega)] \times 0.01\%$. In case of the measurement of absolute value, add ± 1 digit.

*The above FAST is accuracy under the condition shielded completely.

Measuring time	Remote start		Free running	
	SLOW	FAST	SLOW	FAST
	AC1 period + about 7.5msec. ~ about 408msec.	about 11.5msec. ~ about 408msec.	about 5 times/sec. ~ about 2 times/sec.	about 10 times/sec. ~ about 2 times/sec.

EOC [End of comparison] pulse width	1 ~ 250msec. or continuative
Measuring method	2 or 4-terminal measurement
Setting range value judgment	% Measurement: $\pm 10.000\% / -99.99\% \sim +25.00\%$ Absolute measurements: 00000 ~ 12500
Operation condition	[Temp.] $5^{\circ}C \sim +40^{\circ}C$ [Humidity] less than 85%
Power supply	AC85V ~ 265V, 50 ~ 60Hz, about 50VA
Outer dimension	about 333 (W) \times 99 (H) \times 300 (D) mm (excluding protruding parts such as rubber legs, etc.)
Weight	about 3.8kg

The Outline

AX-163B can easily measure a wide range of resistance from 0.00m Ω to 125M Ω , high speed, and high accuracy.

The unit is installed microprocessor to judge the measured value for HI/GO/ LO, outputs signal outside.

The measured value is indicated as $\pm 10.000\% / -99.99\% \sim +25.00\%$, or resistance value (max.12500 count).

The unit can be switched a measuring speed, both FAST and SLOW can set an integral time each range.

Contact-check function as a standard equipment: When measure 4 terminals, either one contact failure occurs, judges H decision, and outputs HI signal with C.E (Contact Error) signal outside regardless of its measured value at the same time.

The Contact-check is selectable from premeasurement/postmeasurement/OFF.

Besides, a check function to observe the measuring electrical current/electrical voltage always has set, when bad contact situation occurs during measurement, outputs to judge NG decision.

Printed-out (based on centronics), RS-232C interface, and set data transfer functions are equipped as standard. Printed-out can be memorized 10,000 of the measuring data, the unit can be measured even though during printing out. Besides it also can be printed out a result of statistical analysis data for arbitrary units of its measuring data.

RS-232C (GP-IB is an option) can be set measurement condition such as output the measuring data, standard resistance or limit value, and others.

The function of transfers the setup data can easily and quickly transfers another AX-163B for the same value of a range, standard, limit, is very useful when use two units together (joint cable is sold separately)

Besides, for setup of a measuring range to handle a key of front panel is only put in a standard resistance value to select automatically an appropriate range built in microprocessor so as to remove the burden of setup a range.

Moreover, a content of the setup keeps by battery backup even the power source OFF.

Option

- GP-IB Interface
- Solenoid power supply DC24V 1A/DC12V 2A
- Data transfer cable
- BCD parallel out