

MODEL ZJ-3B/4B series

Quasi-Static Piezoelectric d_{33} Meter

The Model ZJ-3B/4B series quasi-static d_{33} Meters are the special instruments for measuring piezoelectric constant d_{33} of various kind of piezoelectric materials, such as piezoelectric ceramics, crystals, and polymers. It also can be used for measuring equivalent piezoelectric constant d_{33}' of arbitrarily cut piezoelectric crystals, such as lithium niobate, quartz, tourmaline. The measurable d_{33} value is wide with fine resolution, high reliability, simple and convenient operation. The measurable specimen's size and shape are unrestricted, for example, disks, blocks, rings, tubes and semispherical shell, etc.; all of them can be measured. The measured value of d_{33} is displayed on a 3 1/2 digit meter directly. So this instrument is indispensable to any laboratory concerned with production, application and research of piezoelectric materials.

The Model ZJ-3B/4B(improved type) is a new type of d_{33} Meter, and superior to Model ZJ-2 and old type ZJ-3B d_{33} meter in following respects especially.

1. Make the Anti-EMI(electric magnetic interference) capability, stability and reliability more excellent.
2. Make the measurable maximum d_{33} value up to 2000pC/N(ZJ-3B),or 4000pC/N(ZJ-4B).
3. ***The Force Head is made of stainless steel, so as to protect from rust.***

Features

1. Directly measures the piezo d_{33} constant of piezo materials in the range of 1 to 4000 pC/N. The polarity of the tested specimen is also indicated.
2. Capable of evaluating a variety of ceramic size and shapes, discs, tubes, hemispheres etc., and single crystals and polymers.
3. No technical expertise is required for measuring and only two operating controls: on/off switch and “zero”adjusting.
4. Capable of stable measurement in severe EMI environment.
5. Piezo voltage constant g_{33} is quickly obtained using the formula: $g_{33}=d_{33}/\epsilon_{33}^T$, Here ϵ_{33}^T is the dielectric constant from the capacitance of the specimen measured with impedance meter or bridge.
6. The ZJ-3B/4B d_{33} Meter acceptable maximum height of specimen up to 80 mm between probes.
7. Test monitor output allows an empirical evaluation of potential flaws and defects by viewing the output signal waveform.
8. ***The Force Head is made of stainless steel, so as to protect from rust.***
9. ***Improved the electronic circuit for protecting IC from discharge damage.***
10. ***Install d_{31} adapter (as a accessory, customer can order it) on the Force Head of Model ZJ-3B/4B, the d_{31} coefficient on piezoelectric tubes and bars can be measured directly.***

SPECIFICATIONS

d_{33} range:	1 range:	20 to 2000 pC/N(ZJ-3B) 20 to 4000 pC/N(ZJ-4B)
	0.1 range:	2 to 200 pC/N(ZJ-3B) 2 to 200 pC/N(ZJ-4B)
Accuracy:	1 range:	2% \pm 1 up to \pm 3 counts(1pC/N) for d_{33} in 200 to 2000 pC/N(ZJ-3B) 200 to 4000 pC/N(ZJ-4B)
		5% \pm 1 up to \pm 3 counts (1pC/N) for d_{33} in 20 to 200 pC/N(ZJ-3B) 20 to 200 pC/N(ZJ-4B)
	0.1 range:	\pm 2% \pm 1 up to \pm 3 counts(0.1pC/N) for d_{33} in 20 to 200 pC/N(ZJ-3B) 20 to 200 pC/N(ZJ-4B)
		5% \pm 1 up to \pm 3 counts (0.1pC/N) for d_{33} in 1 to 20 pC/N(ZJ-3B) 2 to 20 pC/N(ZJ-4B)
Resolution:	1 range:	1 pC/N
	0.1 range:	0.1 pC/N



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