

SOKEN

GENERAL LABORATORY FOR PRECISE
ELECTRONIC TESTING INSTRUMENTS

DAC-PSC-UA

Specializing In Precision
Measurement

GENERAL

Model DAC-PSC-UA is an automatically operating transformer type bridge incorporating a precision current comparator.

The instrument features accurate measurement and versatility capable of testing the specimens in a wide range of rated voltage and capacitance simply by changing the standard capacitor Cs.

The instrument is primarily used for measurement of dielectric loss tangent ($\tan \delta$) and capacitance of such specimens as high voltage cable, insulator, bushing, etc. whose dielectric losses are relatively small. Also it is greatly useful in the field of research and development of dielectric and insulating materials.

APPLICATIONS

- ◇ Measurement of capacitance and $\tan \delta$ of CV Cables, High Voltage Power Factor Correction Capacitors, High Voltage Insulators, etc.
- ◇ Measurement of dielectric characteristics of high voltage insulation materials.

FEATURES

- 1) Capacitance and $\tan \delta$ of specimen can be read directly on digital display.
- 2) Minimum resolution of $\tan \delta$ is 1×10^{-6} .
- 3) Instrument is provided for operation with two different standard capacitors for low and high test voltage. (On special order, arrangement for use of three different standard capacitors is also possible.)
- 4) An external auxiliary CT to be supplied on option allows measurable capacitance range to be expanded by 100 times.
- 5) Instrument is equipped with BCD output as standard. GP-IB or RS-232C interface is also available on option.



SPECIFICATIONS

Standard Capacitor (Cs): 50pF, 100pF, 1000pF
(Supplied on option.)

Test Voltage: 2KV - 30KV with 1000pF Cs
20KV - 300KV with 100pF Cs
40KV - 600KV with 50pF Cs

Test Frequency: 50Hz or 60Hz as specified.

Measurable Range:

Capacitance: 1nF - 1 μ F with 1000pF Cs
0.1nF - 100nF with 100pF Cs
0.05nF - 50nF with 50pF Cs

Selectable Cx Range:

10nF, 100nF, 1 μ F with 1000pF Cs
1nF, 10nF, 100nF with 100pF Cs
0.05nF, 5nF, 50nF with 50pF Cs

Effective measurement:

Within the scope of 10 - 100% at respective Cx range.

tan δ : 2.000% 10⁻⁵ Range
0.2000% 10⁻⁶ Range

Capacity of measuring current: 8A max.

■ If DAC-CT-1 (auxiliary CT supplied on option) is used, measurable capacitance range is expanded by 100 times.

Resolution:

Capacitance: 0.01pF at 0.5nF and 1nF Range
0.1pF at 5nF and 10nF Range
1pF at 50nF and 100nF Range
10pF at 1 μ F Range

tan δ : 0.001% at 10⁻⁵ Range
0.0001% at 10⁻⁶ Range

■ To obtain correct reading at 10⁻⁶ Range, test must be done at the voltage 5 times as large as the minimum voltage or more.

Accuracy:

Capacitance: \pm (0.1% Rdg + 2 digits)

tan δ : \pm (0.003% + 1% Rdg + 2 digits)

Display:

Capacitance: Digital display in 6 digits

tan δ : Digital display in 4 digits

Power Supply: AC 100V \pm 10% 50/60Hz

Output: BCD as standard equipment

* GP-IB or RS-232C interface is available on option.

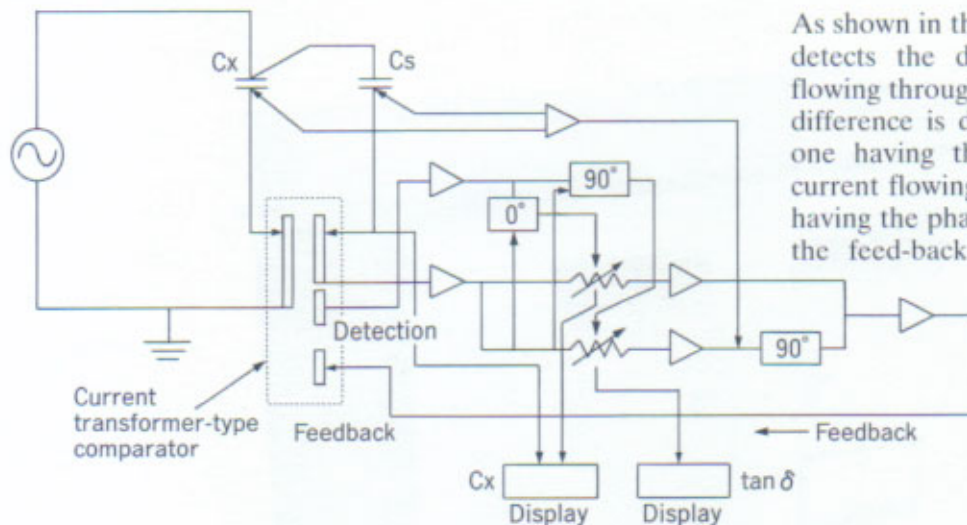
COMPOSITION

Automatic Schering Bridge DAC-PSC-UA ... 1 set
Measuring Cable 1 set

SIZE & WEIGHT

510 (W) \times 330 (H) \times 330 (D) mm About 25kgs

BLOCK DIAGRAM



As shown in the diagram, the comparator detects the difference of the currents flowing through the C_s and C_x . Then, the difference is divided to two ingredients, one having the same phase as of the current flowing through C_s and the other having the phase 90° different, and led to the feed-back coil of the comparator. Thus, the feed-back amounts making the difference null are taken up and processed to give direct reading of C and tan δ on the respective indicators.

※ All descriptions in this catalog are subject to change without notice.

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