INSTRUMENT TRANSFORMER TEST SET

DAC-VCTT-8

DAC-VCTT-8 is an automatic balance bridge incorporating a current comparator-type transformer. It is a desirable tester for measuring ratio errors and phase angles of instrument transformers according to the international standards IEC 60044-1 and -2. Combining an optional different-ratio adapter, DAC-RAC-2/RAV-2, different-ratio testing is also available.

Features

- Current transformer (CT) testing in accordance with the current ratio error test of the international standard IEC 60044-1 is available.
- Voltage transformer (VT) testing in accordance with the voltage error test of the international standard IEC 60044-2 is available.
- The ratio error, phase displacement, test voltage, test current, and test frequency of CT/VT can be measured.
- Units of indication, either “%” or “RCF” (Ratio Correction Factor) for the ratio error, and either “Min “(minutes) or “Crad” (centiradians) for the phase angle, are available. Thus, it is appropriate for ANSI/IEEE tests.
- USB interface is a standard fixture.
- Error values of standard VT/CT can be registered, and automatically compensated. Registration: 10 units for each VT and CT (Test point: 20 points for every unit)
- Different-ratio testing is available by incorporating an optional CT or VT different-ratio adapter.
- An internal burden compensation circuit realizes the internal burden of DAC-VCTT-8 as small as 0.1VA.

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Specifications

- Test Method — Comparison of the instrument transformer under test with a measurement standard Transformer having the same transformation ratio.
  (A standard voltage transformer or Current transformer is to be prepared by user.)

- Rated secondary and test range

	Rated Secondary	Test Range
CT	1 A, 5 A	1 ~ 200%
VT	110, 120, 150, 200, 230, 63.5, 190/3 V	2 ~ 120%
	100/3, 110/3, 200/3 V	5 ~ 200%

- Measurement range

  Ratio error (RCF) and phase angle

Measure Range	Ratio Error	Phase angle
2% Range	± 1.999% (0.98040-1.02040)	± 99.9 min
20% Range	± 19.99% (0.83440-1.24984)	± 999 min

  Rated secondary Current: 0 – 210% of rated secondary current

	Phase angle
Rated 1A	0.000 – 2.100A
Rated 5A	0.00 – 10.50A

  Rated secondary Voltage: 0 – 300V
  Test Frequency: 45 - 66Hz

- Resolutions

Measurement Range	Ratio Error	Phase angle
2% Range	0.001%	0.1 min
20% Range	0.01%	1 min

Rated secondary current	Reading in % of rating	Reading in current
Rated 1A	0.1%	0.001A
Rated 5A	0.1%	0.01A

- Accuracy
  - Ratio error: ±(3%rdg + 2 digits) *±(3%rdg + 3 digits) when less than rated 20%
  - Phase angle: ±(3%rdg + 2 digits) *±(3%rdg + 3 digits) when less than rated 20%
  - Voltage/Current: ±(3%rdg + 3 digits)
  - Frequency: ±0.1Hz

- Internal Burden: 0.1VA or less
- Interface: USB (2.0/1.1) or GP-IB(as option)
- Input power: AC100-240V ±10%, 50/60Hz
- Size and weight: W430xH200xD380 (mm), about 20kg

Note: Specifications are subject to change without notice due to our commitment to continual product improvement.

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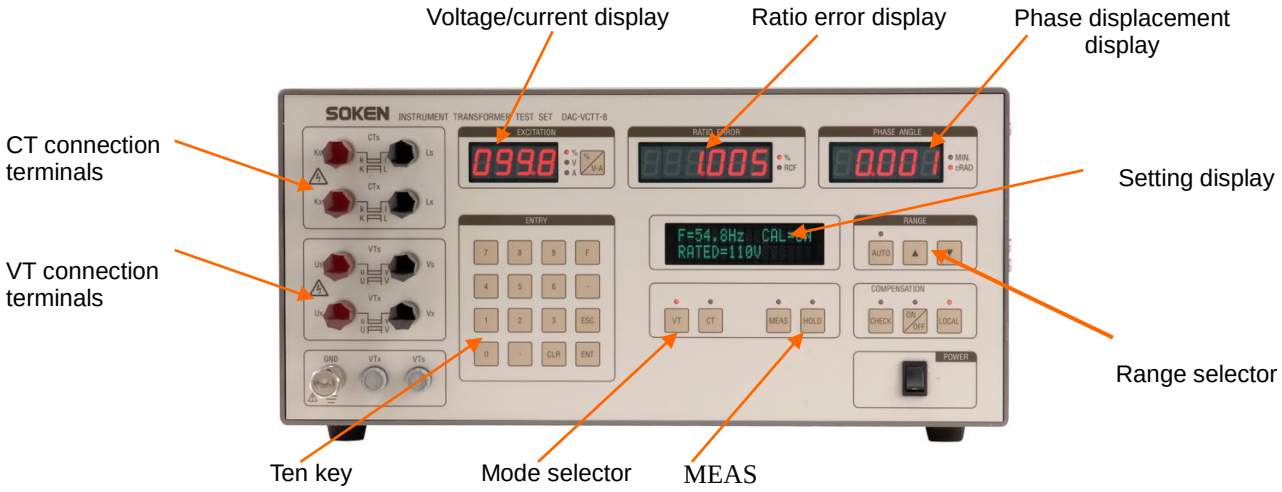
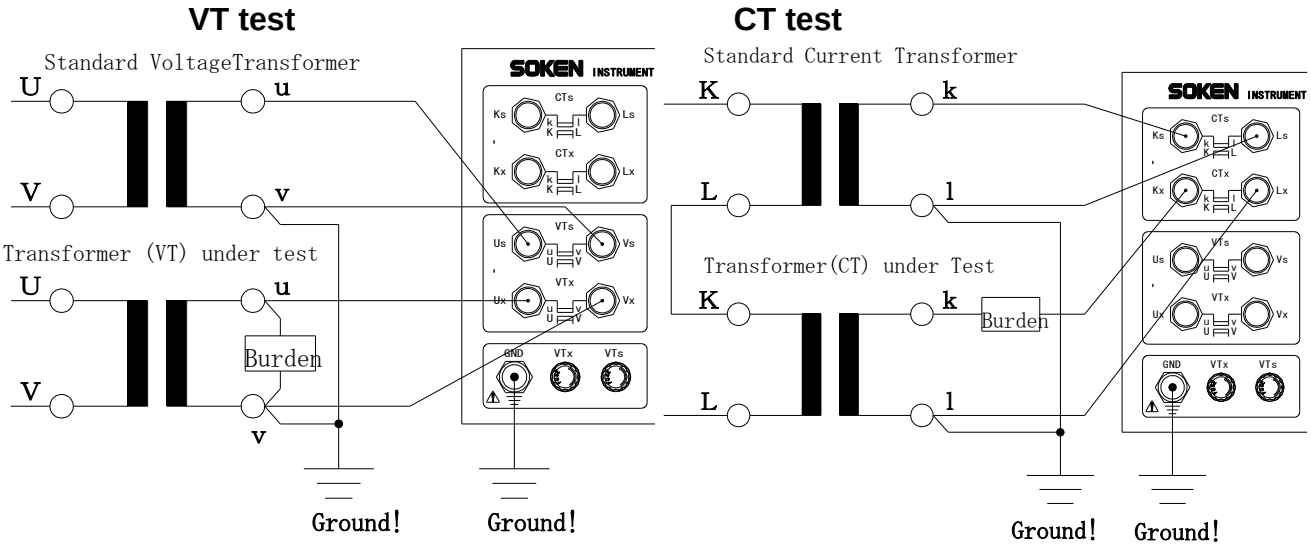
Front Panel



Advantages of the DAC-VCTT-8

Instrument transformer errors depend on the secondary load impedance (burden). Therefore, to achieve accurate examination of instrument transformer errors, a load equivalent to the internal impedance of the instruments connected to the secondary circuit is required to connect to the instrument transformer under test. Modern instruments that are connected to the secondary circuits of instrument transformers are electronized. Consequently, the instrument transformer test equipment is required to be able to handle such instrument transformers connected to small burdens, which include those that are smaller than the equipment's own internal burden or even zero burden. To achieve this capability, the DAC-VCTT-8 Automatic Instrument Transformer Test Set incorporates an internal burden compensation circuit that generates the condition of the internal burden of zero to examine even when the setting of the load impedance of an instrument transformer is zero. Moreover, connection cables can also be included for the condition of internal burden of zero by extending the terminals for detecting the internal-burden voltage. Hence, it is possible to use the combination of DAC-VCTT-8 and our DAC-PBVC-8 Electronic Burden Equipment, as illustrated in the diagram below to examine instrument transformer errors under any desired conditions of burden including the burden of zero.

Connecting Diagrams



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Option Accessories

Ratio adapter Model DAC-RAC-2 / Model DAC-RAV-2

The option adaptors of the DAC-VCTT-8 enables testing of an instrument transformer whose transformation ratio is different from that of a standard voltage/current transformer by converting the instrument transformer's transformation ratio to that of the standard voltage/current transformer.

They are useful in minimizing the necessary modification of the measurement standard and in improving the speed and efficiency of testing.

1. Range of ratios to be set

(Ks: Transformation ratio of a measurement standard, Kx: Transformation ratio of an instrument transformer to be tested)

VT	DAC-RAV-2	Ks/Kx: 0.5000 ~ 2.0000
CT	DAC-RAC-2	Ks/Kx: 0.5000 ~ 1.5000

2. Setting of ratio

Transformation ratios are the same:
For example, Ks/Kx = 1, then the value to be specified is 1.0000
Transformation ratios are different:
For example, Ks = 100, Kx = 80, Ks/Kx = 1.25, then the value to be specified is 1.2500

This equipment is used for accurate examination of instrument transformer errors at the user's installation site.

Standard voltage transformer / Standard current transformer

These instruments are used as standard voltage or current transformers for the testing of instrument transformers.

- Common specifications
  Rated burden: 15 VA
  Class index: 0.1
  Frequency: 50, 60 Hz

Note: Detailed specifications are available upon request.

Standard VT

Standard CT

Specifications subject to be changed without prior notice.
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