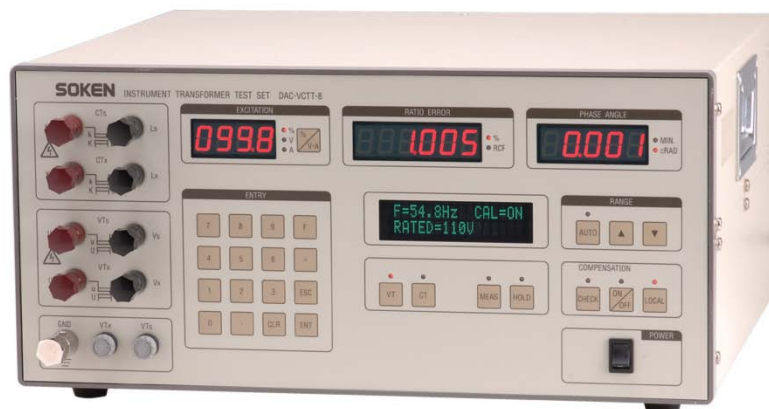


Instrument Transformer Test Set

DAC-VCTT-8



Overview

DAC-VCTT-8 is a test set, incorporating an automatic-current comparator-type transformer, 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, minimum reference standard instrument transformers are required.

■ 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 can be measured.
- The ratio error is indicated in units of either % or RCF (Ratio Correction Factor), and the phase displacement is indicated in units of either minutes or centi-radians; thus it is appropriate for ANSI/IEEE tests.
- USB interface is a standard fixture.
- Errors for up to 10 measurement standards can be registered, and measurements are made with errors being automatically corrected.
- Different-ratio testing is available by incorporating an optional CT or VT different-ratio adapter.
- The internal burden of this equipment is as small as 0.1 VA introducing a built-in internal burden compensation circuit (patent pending).

INSTRUMENT TRANSFORMER TEST SET DAC-VCTT-8

Specifications

- Test method Comparison of the instrument transformer under test with a measurement standard having the same transformation ratio
- Measurement standard A standard voltage transformer or current transformer is to be prepared by the user.

Rated secondary and test range

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

Ratio error (RCF) and phase displacement

Measure Range	Ratio Error	Phase Displacement
2% Range	± 1.999% (0.9804-1.0204)	± 99.9 min
20% Range	± 19.99% (0.8344-1.2499)	± 999 min

CT secondary current

0 ~ 210% of rated secondary current

- Measurement range

	Current
Rated 1 A	0.000-2.100 A
Rated 5 A	0.00-10.50 A

VT secondary voltage

Rated secondary voltage 0-300 V

Test frequency: 45-66 Hz

Ratio error and phase displacement

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

Current

- Resolution

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

Voltage

Reading in % of rating 0.1 %

Reading in voltage 0.1 V

Frequency: 0.1 Hz

Ratio error ± (1% reading + 10 ppm + 1 digit)

Phase displacement ± (1% reading + 0.2 min + 1 digit)

- Accuracy (aimed)

Voltage and current ± (0.5% reading + 0.5% FS)

Frequency ± 0.1 Hz

- Internal burden

0.1 VA or less

- Communications

USB (2.0/1.1) interface

- Other functions

Internal burden compensation, self-calibration, overcurrent detection, and polarity error detection

- Rated power voltage

100/ 120/ 220/ 240 V ± 10%

- Power frequency

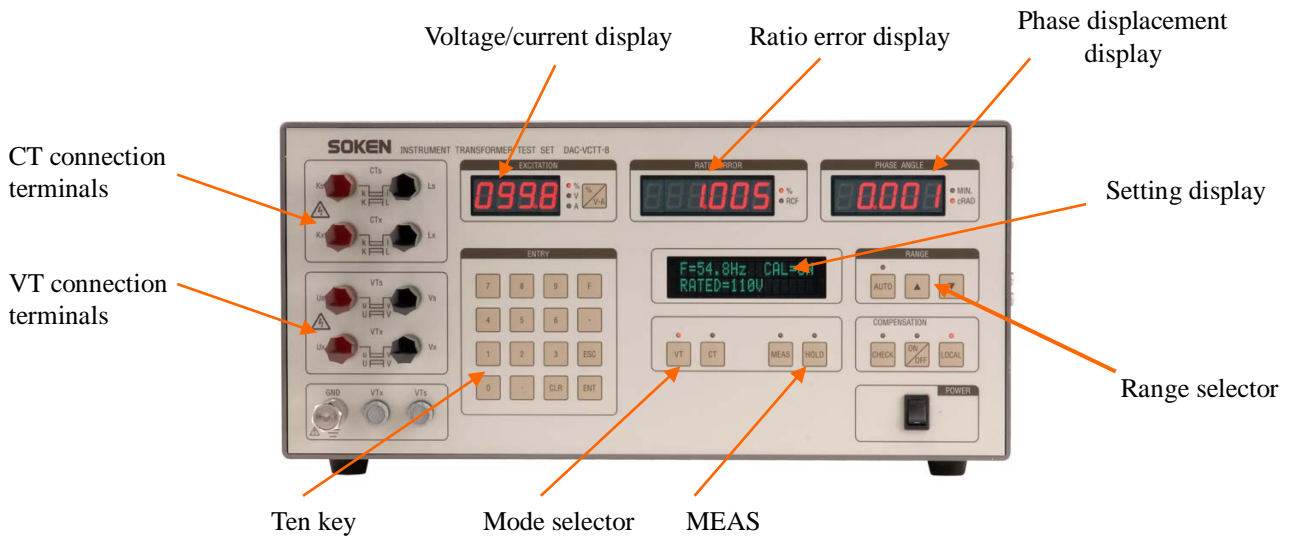
50/60 Hz

- Dimensions and mass

W430 × H200 × D380 mm (excluding protuberances), about 20 kg

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

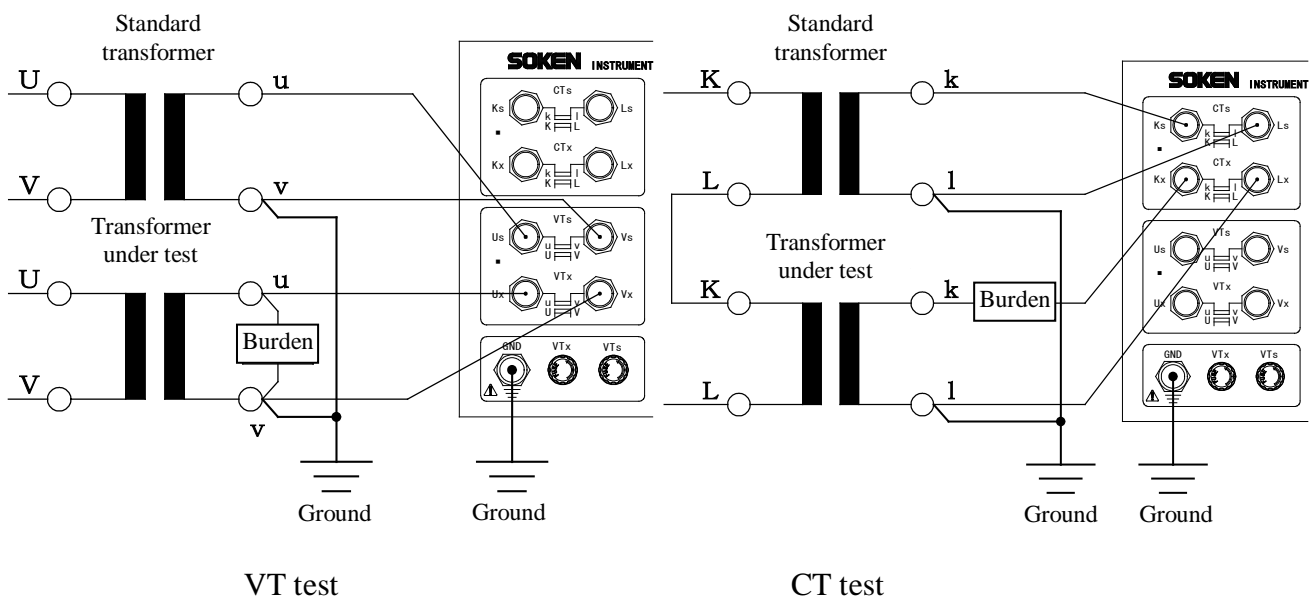
Designation of controls on the panel



Advantages of the equipment

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.

Wiring diagram



INSTRUMENT TRANSFORMER TEST SET DAC-VCTT-8

Ratio adapter (option)

DAC-RAC-2/RAV-2

This option of the DAC-VCTT-8 Automatic Instrument Transformer Test Set enables the 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.



This option is 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, $K_s/K_x = 1$, then the value to be specified is 1.0000

Transformation ratios are different:

For example, $K_s = 100$, $K_x = 80$, $K_s/K_x = 1.25$, 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.

Other products: Standard voltage/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



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