ELECTRONIC BURDEN
FOR INSTRUMENT TRANSFORMER
DAC-PBVC-8

DAC-PBVC-8 is a burden device for error test of both instrument voltage transformers (VT) and current transformers (CT).
The device creates the “specified burden” by specifying both the “burden VA” and the “Burden power factor” for VT or CT to be tested.
DAC-PBVC-8, a compact, lightweight and power-saving burden with USB and GP-IB interfaces, can help you to accomplish error tests readily and smoothly.

Features

- Usable for both voltage transformers (VT) and current transformers (CT).
- Allows the setting of perfectly low burdens (zero burdens).
- Allows the setting in increments as small as 0.001 VA to the maximum of 100VA.
- Lead-wire compensation is available as maximum 1 ohm with a four-terminal connection.
- Up to 100 sets of test conditioning parameters can be stored.

Technical Explanation

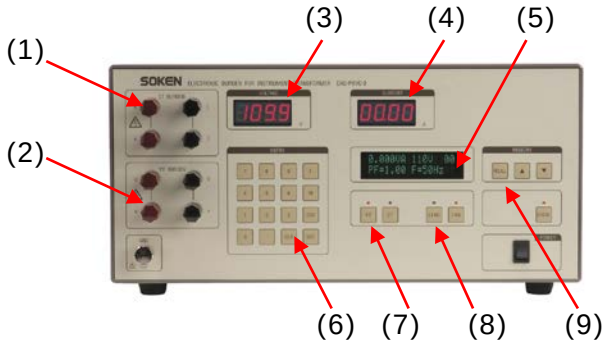
DAC-PBVC-8 is an electronic burden combining the advantages of 2 kinds of method: “real burden method” constructed from resistance and reactance, and “imaginary burden method” created by electronic circuitry (patent no. 3162307). This device allows automatic setting of burden at infinite resolution, though it is difficult for only the conventional real burden method. Because large capacity burdens can be generated using small-capacity electronic burdens, DAC-PBVC-8 has a compact and lightweight body. Furthermore, since the ratio of control capacity becomes small, a stable burden is realized.

Model DAC-PBVC-8
ELECTRONIC BURDEN FOR INSTRUMENT TRANSFORMER

Specifications

Rated Secondary voltage	: VT MODE	: 110/√3V and 110V
Rated Secondary Current	: CT MODE	: 1A and 5A
Test voltage	: VT MODE	: 2 to 120% of the rated Sec. Voltage
	CT MODE	: 1 to 120% of the rated Sec. Current
Burden Power factor	: 0.20(lagging) - 1 - 0.80 (leading)	
Burden VA to be set	: 0.000 to 100.0 VA	
Lead-wire compensation	: 0 to 1.000Ω under CT mode	
Burden setting accuracy	: ±4%, (±10% for 1/10 or less of rating)	
Interface	: USB (2.0/1.1) / GP-IB (IEEE488) *	
	*(simultaneous-use is not possible)	
Test Frequency	: 50/60 Hz	
AC Source	: 100 to 240 VAC ±10%, 50/60Hz	
Power consumption	: About 150VA	
Operating environment	: Temperature 5 to 35℃	
	Humidity 35 to 80%, non-condensing	
Accuracy of voltmeter and ammeter	: ±(3% reading + 3 digits)	
Dimensions	: W430 x H200 x D450mm (Excluding potions)	
Weight	: about 26kg	

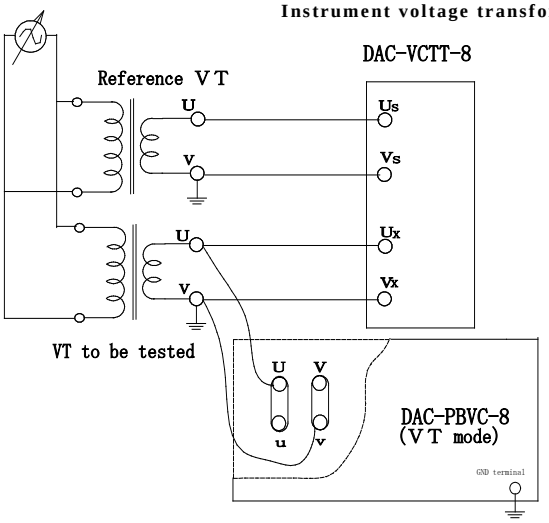
Front Panel



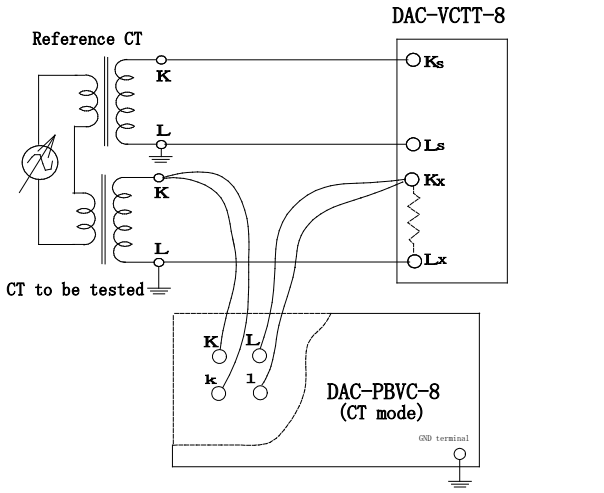
(1) CT Connection terminals
(2) VT Connection terminals
(3) Voltage display
(4) Current display
(5) Setting display
(6) Ten-Key pad
(7) Mode setting
(8) MEAS
(9) Range setting

Connecting diagram

Test equipment for Instrument voltage transformer



Test equipment for instrument current transformer



In this case, only the connection cables of the electronic burden are compensated.

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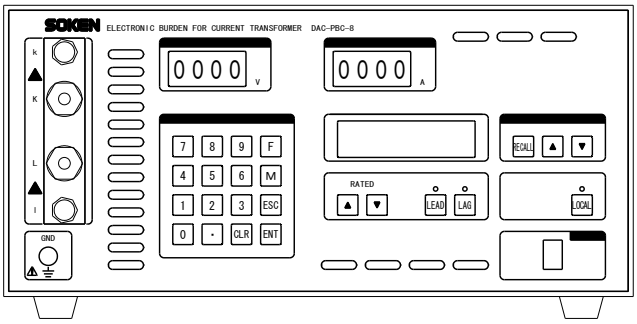
ELECTRONIC BURDEN FOR CURRENT TRANSFORMER

DAC-PBC-8



Features

- Programmable burden used for current error testing in accordance with international standard IEC 60044-1.
- Testing current can be varied over a wide range: from 1 % to 200% of the rated secondary current.
- Rated burdens from 0 to 50VA are programmable.
- USB Interface is a standard fixture.
- Test conditions can be easily configured: the maximum of 100 test parameters (rating, burden, power factor and lead wire compensation) are programmable.
- Lead wire compensation (the maximum of 0.2 Ω) for connection of two terminals is possible.
- Max real burden is up to 400VA with option units. (when 200% at rated secondary current 1A)

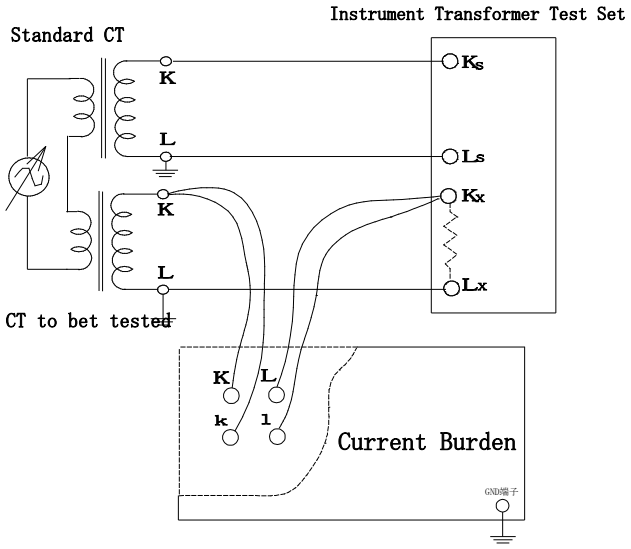
Specifications

Rated Secondary Current	: 1A and 5A
Test Current range	: 1% to 200% of the rated secondary current
Rated burden setting	: 0.000 to 50.0 VA Maximum of 400VA* with optional Electric burden *1% to 200% of the rated secondary current
Burden Power factor	: Delay 0.5 to 1
Lead wire compensation	: 0.000 to 0.200Ω
Test Frequency	: 50/60 Hz
Settable resolution	: Rated burden setting 0 – 4 VA: 0.001 VA steps 4 – 20 VA: 0.01 VA steps 20 – 50 VA: 0.1 VA steps Burden Power Factor 0.01 steps
Accuracy (target value)	: Burden and Burden Power Factor: ±4%
Communication	: USB (2.0/1.1)
Other Functions	: Test condition programming, over current protection, Alarm function for measuring circuit, lead wire compensation
Rated Supply Voltage	: 100 to 240V ±10%
Dimensions	: W430 x H250 x D380mm (without projections)

(Please feel free to ask us for specifications other than the above.)

ELECTRONIC CURRENT BURDEN
DAC-PBC-8

4-terminal Connecting diagrams



When compensate only connecting cables of the electronic burden.

Option Electric Burden

Optional burden DAC-FBC series
are available in need of further VA.

- DAC-FBC-50 : 50VA
- DAC-FBC-100 : 100VA

Combining DAC-PBC-8 with 1 set of DAC-FBC-50 and 3 sets of DAC-FBC-100 together, Maximum 400VA* is available.
*(when 200% at rated secondary current 1A)

Instrument Transformer Test Set DAC-VCTT-8

Combining with DAC-VCTT-8, Current Burden DAC-PBC-8 can be controlled from DAC-VCTT-8.

Specifications of DAC-VCTT-8

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

**Please refer to the catalog of DAC-VCTT-8 for more details.*

DAC-VCTT-8

Specifications are subject to be changed without prior notice. 2014/09/08

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ELECTRONIC BURDEN FOR VOLTAGE TRANSFORMER

DAC-PBV-8

Features

- Programmable burden used for voltage error testing in accordance with IEC60044-2.
- Testing voltage can be varied over a wide range: 2 % to 190% of the rated secondary voltage.
- Burdens from 0 to 50VA are available standalone, and maximum of 400VA in steps of 100VA is available with optional electronic burdens.
- USB Interface is a standard fixture.
- Test conditions can be easily configured: the maximum of 100 test parameters (rating, burden, power factor and lead wire compensation) are programmable.

Specifications

Rated Secondary voltage	: 100, 110, 115, 120, 200, 230V and each x 1/√3, and 100/3, 110/3, 200/3V *(Please feel free to ask us for the other specifications.)*
Test voltage range	: 2% to 190% of the rated secondary voltage (Max current of 12A)
Rated burden setting	: 0.00 to 50.0 VA Maximum of 400VA* with optional Electric burden *Except rated secondary voltages : 200, 230, 200/√3 and 230/√3
Burden Power factor	: Delay: 0.20 to 1 [Rated burden: 0 – 35 VA] : Delay: 0.5 to 1 [Rated burden: 35 – 75 VA] : Delay: 0.8 [Rated burden: 75 – 400 VA] with option burden
Test Frequency	: 50/60 Hz
Settable resolution	: Rated burden setting 0 – 4 VA: 0.001 VA steps 4 – 20 VA: 0.01 VA steps 20 – 75 VA: 0.1 VA steps With optional burden 75 – 99.9 VA: 0.1 VA steps 100 – 400 VA: 1 VA steps
Burden Power Factor	: 0.01 steps
Accuracy (target value)	: Burden and Burden Power Factor: ±4%
Communication	: USB (2.0/1.1)
Other Functions	: Test condition programming, over current protection, Alarm function for measuring circuit
Rated Supply Voltage	: 100 to 240V ±10%
Dimensions	: W430 x H250 x D380mm (Excluding potions)

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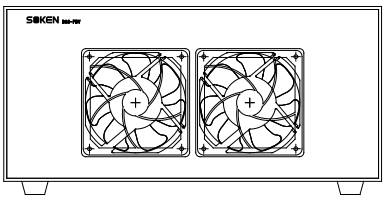
Option Electric Burden

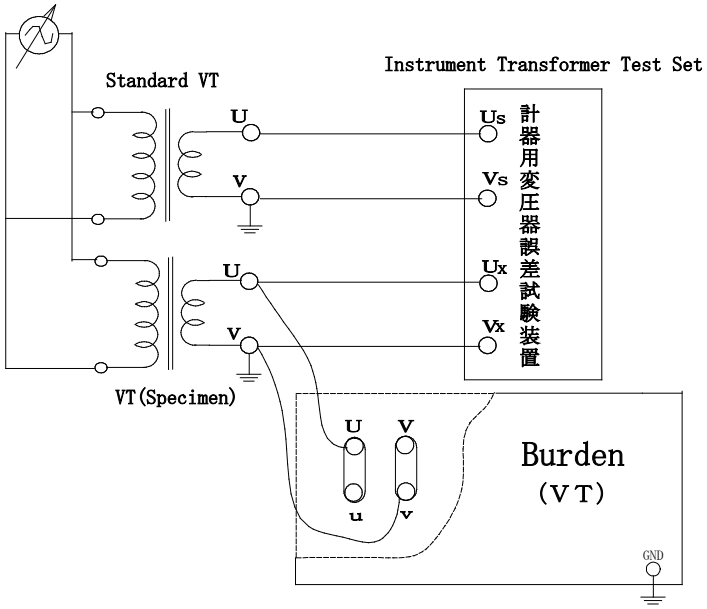
Optional burden DAC-FBV series
are available in need of further VA.
The burdens are controlled by
DAC-PBV-8 through serial communication.



DAC-FBV series

Model DAC-FBV-A100 (Sec.V: 110/3, 110/√3, 110)
Model DAC-FBV-B100 (Sec.V: 100/3, 100/√3, 100, 200/3, 200/√3, 200)
Model DAC-FBV-C100 (Sec.V: 115/√3, 115, 120/√3, 120, 230/√3, 230)

Connecting diagram



Product Line-Up

Electronic Burden for Instrument Transformer
Model DAC-PBVC-8

DAC-PBVC-8 has been developed for error testing of Instrument Transformers (VT and CT). A ten-key pad is provided to facilitate the setting of parameters, such as burden, power factor, etc.

Rated secondary: VT mode: 110/√3V and 110V
CT mode: 1A and 5A
Measurement voltage: VT mode: 2 to 120% of the rating
CT mode: 1 to 120% of the rating
Burden Power factor: 0.20 (lag) – 1 – 0.80 (lead)*
*Setting burden at lead conditions must be 25VA or less.
Burden VA : 0.000 to 100.0VA

(Refer to catalog for DAC-PBVC-8 for more details.)

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