Sold & Serviced in USA by:
HV TECHNOLOGIES, Inc.
8526 Virginia Meadows Dr.
Manassas, VA 20109
(703) 365-2330
www.hvtechnologies.com
hvsales@hvtechnologies.com

3695

Programmable Electronic Voltage Burden

Datasheet

HAEFELY

Current and voltage – our passion

Designed by Tettex

General Description

The programmable electronic current burden, type 3691 is designed for efficient testing of current instrument transformers. It replaces traditional burdens which are built with passive resistances and inductances.

The wide range of programmable impedances enables the emulation of most existing national and international standard burdens as well as customer-specific values.

The electronic voltage burden constantly monitors the applied burden accuracy and indicates any burden parameter deviation that may occur when testing an instrument transformer for accuracy, thereby connection and handling errors in the complete accuracy test sytem are minimized.

The instrument is protected against user setting errors, overvoltages, overcurrents and overheating. The error messages are indicated on the dot matrix display installed on the front panel of the device.

In conjunction with the type 2767 automatic instrument transformer test set and the type 4860 electronic voltage divider, the system makes it possible to integrate burdens into a computer-controlled test system.

For applications requiring apparent powers higher than 75 VA, the remotely controlled additionnal external passive voltage burden type **3697** expands the power range of the programmable electronic voltage burden type 3695 to 400 VA

Features	Advantages
▪ The voltage burden type 3695 is suitable for standard voltage ratings. Power levels are selectable over a wide range (up to 75 VA) with cos β = 0.1 to 1 at 50 and 60 Hz	☑ **High versatility** – 3695 is a universal and standardized voltage burden offering a wide burden spectrum. The built-in test frequency detection and auto-selection eliminates the disadvantage of having one instrument per power frequency value.
▪ High accuracy of 1% - even with additional external passive burden type 3697 connected	☑ **Accuracy at best level –** 3695 + 3697 units are prepared for accuracy testing of voltage instrument transformers with most stringent accuracy requirement – These units are qualified for use in metrology institutes.
▪ The power range can be expanded to 400 VA with an additionnal passive voltage burden type 3697	☑ **Configuration flexibility** – Unit replacement is not necessary when power expansion is required, a quick and easy unit extension is available with type 3697.
▪ The load generation principle used in the 3695 unit is electronic, not based on classical passive burdens	☑ **Optimized investment** – Many classical passive burdens can be replaced by a single electronic voltage burden type 3695.
▪ The internal resistance of the measuring system can be parametrised from the unit user interface and is automatically compensated	☑ **Compatibility** – Unit can be integrated with a variety of instrument transformer test sets, such as Tettex types 2767 or other makes.
▪ Remote control possibility via IEEE 488 or RS 232C interfaces	☑ **Upgradeable to an automatic test system** – By combination with a device type 2767 or 2769.
▪ Burden values can be retrieved from stored tables based on IEC 61869-3, ANSI C57.13 and VDE 0414 Part 2. ▪ Nine individual burden settings (S_N, cos β) can be stored and retrieved as needed	☑ **Optimized setting time** – Unit can be quickly and easily configured for a new test using pre-defined burden values from applicable standards or user defined set of values.

Applications

- Voltage instrument transformers (LV/MV/HV)
- On-site testing of high voltage instrument transformers
- Metrology institutes
- Research and development

Scope of Supply

- 1 Programmable electronic voltage burden, type 3695
- 1 Mains cable 2P+E
- 1 Set of accessories inc. RS232 adapter
- 1 Test Certificate
- 1 Operating Manual
- 1 Year warranty

Accesories

- **3697** Remotely controlled additionnal passive voltage burden with automatic detection of possible burden range S_N, U_N and cos β by 3695. Expands the power range to max. 400 VA

- **3695 /1** Interface (IEEE 488 GPIB) for remote control by external computer, incl. data cable. Disables standard RS – 232 interface.

Technical Data

Burden settings		
Rated power range S_N In increments of	0; 1 to 75 VA 0.01 VA	
Power factor cos β In increments of	1 to 35 VA: 0.1 to 1 inductive 0.01	35 to 75 VA 0.5 to 1 inductive
Rated voltage U_N	100 / 110 / 115 / 120 / 200 / 230 V	
All values with factors of	x1; x1/√3; x1/3	
Operating voltage range	2 to 190 % U_N	
Maximum burden current	12 A	
Frequency range	48 to 62 Hz	

Accuracy Specfication			
Device type	**3695**		
Test voltage frequency	50 or 60 Hz		
Accuracy	under reference conditions (1)	under rated operating conditions (1)	at setting S_N = 0 VA
Resistance Δ R / IZI	±1 % (2)	±3 % (2)	S < 0.05 VA
Reactance Δ X / IZI	±1 % (2)	±3 % (2)	

The stated accuracy also apply when the additionnal external passive voltage burden type **3697** is connected.
(1) Reference and rated operating conditions according to IEC 359 and operating instructions.
(2) Related to the corresponding impedance Z = R + i X , I Z I = U_N^2 / S_N. Excitation < 2% U_N : General error limit ±5 %

Accessories	
Device type	**3697**
Rated power range S_N	75 to 400 VA
Rated voltages U_N	100 / 110 V
All values with factors of	x1; x1/√3; x1/3
Power factor cos β	0.8 to 0.85
Test voltage frequency	50 and 60 Hz

Environmental, Mechanical and Power Supply		
Device Type	**3695**	**3697**
Operating temperature	+5 °C … +40 °C	+5 °C … +40 °C
Storage temperature	-20 ° … +70 °C	-20 ° … +70 °C
Humidity	20 … 80 % r.h., non-condensing	10 … 60 % r.h., non-condensing
Dimensions (W x D x H)	500 x 470 x 320 mm (19 x 18.5 x 12.6 in.)	500 x 440 x 320 mm (19 x 17.3 x 12.6 in.)
Weight Desktop housing As 19” Rack:	approx. 50 kg (110 lb.) approx 40 kg (90 lb)	approx. 45 kg (100 lb.) approx. 35 kg (78 lb.)
Power supply Spec.	115/230 V, 50/60 Hz, approx. 620 VA	115/230 V, 50/60 Hz, 200 VA

Applicable Standards	
General	IEC, VDE, ANSI
CE conformity	EMC Directive 2014/30/EU and RoHS Directive 2011/65/EU

Sold & Serviced in USA by:

HV TECHNOLOGIES, Inc.
8526 Virginia Meadows Dr.
Manassas, VA 20109
(703) 365-2330
www.hvtechnologies.com
hvsales@hvtechnologies.com

Global Presence

Europe
HAEFELY AG
Birsstrasse 300
4052 Basel
Switzerland

☎ + 41 61 373 4111
sales@haefely.com

China
HAEFELY AG Representative Office
8-1-602, Fortune Street, No. 67
Chaoyang Road, Beijing 100025
China

☎ + 86 10 8578 8099
sales@haefely.com.cn

V2020.04

HAEFELY
Current and voltage – our passion

H HIGH VOLTAGE
I INSTRUMENTS
E EMC

precision. swiss made.