

TECHNICAL QUESTIONNAIRE 3.101/4
Impulse Voltage Test Systemquotation number
(will be filled in by HIGHVOLT)**PERSONAL DATA**

name: * _____

company / institution: * _____

phone: _____

e-mail: * _____

fax: _____

* mandatory fields

APPLICATIONtest shop on-site research institute training / education other please specify: _____

mainly for the following test objects:

SOFTWARE APPLICATIONScombined voltage composite voltage transformer test arrester test winding resistance test steep impulse instrument calibration system/ divider calibration additional license for office computer **APPLIED STANDARDS**IEC GOST IEEE **REQUIRED DATA** (as far as known)

total charging voltage: _____ kV

total charging energy: _____ kJ

TECHNICAL DATA OF THE LABORATORY

Length: _____ m

Height: _____ m

Width: _____ m

Altitude of the laboratory above sea level: _____ m

TECHNICAL DATA (dimensioning of the generator according to the following load cases)

General transformer data I

load case	transformer data					
	phases	circuit	freq.	dimensions		
				height	width	length
transformer	1~/3~	Y/Δ	Hz	m	m	m
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						
example	3~	Δ	60	4	3	6

General transformer data II

load case	coil data									
	system voltage			nom.	impedance			capacitance		
	HV site	MV site	LV site	Power S	HV site	MV site	LV site	HV site	MV site	LV site
transformer	kV	kV	kV	MVA	%	%	%	nF	nF	nF
1.										
2.										
3.										
4.										
5.										
6.										
7.										
8.										
9.										
10.										
example	525	20	110	200	15	10	4	4.5	6	12

TEST CASES

The following two tables apply to all kinds of test objects, not only to transformers.

Lightning and chopped lightning impulse voltages

load case	designation of the test object	impulse	peak value	chopping time	effective capacitance at lightning impulse
					µs/µs
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
example 1	bushing	1.2/50	1500	4 ... 5	0.4
example 2	transformer	1.2/50	1500	4 ... 5	3

Please note, that in case of lightning impulse the capacitance to earth may dominate the total load capacitance. The ratio between winding and earth capacitance depends strongly on the construction of the power transformer.

Switching impulse voltages

load case	designation of the test object	impulse	peak value of the impulse voltage		effective capacitance at switching impulse
			positive polarity	negative polarity	
		µs/µs	kV	kV	nF
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
example 1	bushing	250/2500	600	750	0.4
example 2	transformer	250/2500	800	1100	4

DIGITAL TRANSIENT MEASURING SYSTEM

sampling rate 100 MHz, resolution 14 bit (recommended for standard wave shapes)
 sampling rate 200 MHz, resolution 12 bit (recommended for chopped wave shapes)
 number of channels 2 4

CONTROLLED RESISTIVE LIGHTNING IMPULSE VOLTAGE DIVIDER

yes no

nom. voltage: kV

CHOPPING GAP (required for transformer tests)

yes no

SUPPLY CONDITIONS (for the feeding impulse test system)

main supply			example
mains voltage (low-voltage mains)	V		230 / 400
mains frequency	Hz		50
star-point earthed		yes <input type="radio"/> no <input type="radio"/>	yes <input type="radio"/> no <input type="radio"/>

Space for remarks:

ENVIRONMENTAL CONDITIONS

The test system will be designed according to the following standard conditions:

		indoor <input type="radio"/>	outdoor <input type="radio"/>	control room <input type="radio"/>
ambient temperature	°C	+5 ... + 35	- 20 ... + 40	+ 10 ... + 30
relative humidity	%	≤ 90	≤ 98	≤ 90
altitude	m	≤ 1000		
wind velocity	km/h	-----	≤ 90	-----

In case of other conditions, please specify (e.g. extreme rain or snowfall, temperature range):

For further information please contact:

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