

## **Three-phase test system for comprehensive power and distribution transformer testing**

Three-phase test system which supports all common electrical tests on single- and three-phase power and distribution transformers.

Three-phase test system for comprehensive power and distribution transformer testing provides you with a convenient way of testing to gain a comprehensive insight into the condition of every part of your power transformer.

### **Technical data**

#### **Outputs**

##### **HV & LV outputs – power**

Frequency	DC or 15 Hz ... 599 Hz		
Power	$V_{\text{mains}}$	$P_{30\text{s}}$	$P_{\text{continuous}}$
	> 100 VRMS	1500 W	1000 W
	> 190 VRMS	4000 W	2400 W

##### **HV & LV outputs – voltage**

<b>Source</b>	<b>Range</b>	<b><math>I_{\text{max, continuous}}</math></b>
3-phase AC(RMS)	0 ... 230 V (LN)	100 mA <sub>RMS</sub>
	0 ... 80 V (LN)	16 A
	0 ... 40 V (LN)	33 A
1-phase AC(RMS)	0 ... 240 V	16 A
	0 ... 120 V	33 A
3-phase DC	0 ... ±113 V	16 A
	0 ... ±56 V	33 A
1-phase DC	0 ... ±340 V	16 A
	0 ... ±170 V	33 A

## HV & LV outputs – current

Source	Range	$V_{\text{max, continuous}}$
3-phase DC	0 ... $\pm 33$ A	56 V
	0 ... $\pm 16$ A	113 V
1-phase DC	0 ... $\pm 100$ A	56V
	0 ... $\pm 33$ A	170V
	0 ... $\pm 50$ A	113V
	0 ... $\pm 16$ A	340V
3-phase AC(RMS)	0 ... 33 A (LN)	40V
	0 ... 16 A (LN)	80V
1-phase AC(RMS)	0 ... 50 A	80V
	0 ... 33 A	120V
	0 ... 16 A	240V

## Inputs

### HV & LV inputs – voltage<sup>2</sup>

Input	Range	Accuracy <sup>3</sup>
AC (RMS)	0 ... 300 mV	0.01 % rd + 0.003 % range
	0 ... 3 V	0.01 % rd + 0.003 % range
	0 ... 30 V	0.01 % rd + 0.003 % range
	0 ... 300 V	0.012 % rd + 0.003 % range
DC	0 ... 42.4 mV	0.022 % rd + 0.032 % range
	0 ... 424 mV	0.01 % rd + 0.017 % range
	0 ... 4.24 V	0.007 % rd + 0.012 % range
	0 ... 42.4 V	0.01 % rd + 0.017 % range
	0 ... 424 V	0.007 % rd + 0.012 % range

### HV & LV inputs – current<sup>4</sup>

Input	Range	Accuracy <sup>3</sup>
AC (RMS)	0 ... 4 ARMS	0.036 % rd + 0.0033 % range
	0 ... 40 ARMS	0.023 % rd + 0.013 % range
DC	0 ... 0.56 ADC	0.1 % rd + 0.023 % range
	0 ... 5.6 ADC	0.037 % rd + 0.026 % range
	0 ... 56 ADC	0.008 % rd + 0.01 % range

## Combined values

### DC resistance measurement

Current	Range	Accuracy <sup>3</sup>
3 A <sub>DC</sub>	10 ... 100 Ω	0.1 % rd + 0.18 % range
	1 ... 10 Ω	0.1 % rd + 0.267 % range
	0.1 ... 1 Ω	0.1 % rd + 0.18 % range
30 A <sub>DC</sub>	1 ... 10 Ω	0.037 % rd + 0.017 % range
	0.1 ... 1 Ω	0.04 % rd + 0.027 % range
	0.01 ... 0.1 Ω	0.033 % rd + 0.017 % range
	0.001 ... 0.01 Ω	0.037 % rd + 0.027 % range
	0.0001 ... 0.001 Ω	0.05 % rd + 0.043 % range
100 A <sub>DC</sub>	3 ... 30 mΩ	0.033 % rd + 0.017 % range
	300 ... 3000 μΩ	0.037 % rd + 0.027 % range
	30 ... 300 μΩ	0.05 % rd + 0.043 % range
	3 ... 30 μΩ	0.07 % rd + 0.44 % range

### On-load tap changer input/output

Voltage	300 V <sub>RMS</sub>
Accuracy AC (50 / 60 Hz) / DC	0.07 % rd + 0.07 % range
Current clamp input	3 V <sub>RMS</sub>
Tap up/down switch	Current1: 300 mA <sub>continuous</sub>
	9 A for 0.7 s
	Voltage1: 300 V <sub>RMS</sub>

### Ratio measurement

Range	Accuracy <sup>3</sup>
1:1 ... 10	0.03 % rd + 0.043 % range
1:10 ... 100	0.027 % rd + 0.043 % range
1:100 ... 1000	0.027 % rd + 0.043 % range
1:1000 ... 10 000	0.027 % rd + 0.043 % range

<sup>1</sup> Only AC permitted

<sup>2</sup> Typical phase accuracy at 50 / 60 Hz, V > 30 % of range: 0.017°

<sup>3</sup> Means "typical accuracy"; at typical temperatures of 23 °C ±5 K; 98 % of all units have an accuracy which is better than specified

<sup>4</sup> Typical phase accuracy at 50 / 60 Hz, I > 30 % of used range: 0.025°