

TTR 2795

Fully Automated Three Phase Transformer Turns Ratio Meter

Datasheet



HAEFELY

Current and voltage – our passion

Designed by



General Description

On-site testing of turns ratio is an important basic measurement for power transformer diagnosis.

It helps to detect faulty transformer windings as well as defective tap changer positions. The simple ratio of turns or voltage and the related ratio error is not sufficient to detect all possible failures of a power transformer winding. The excitation current and the phase angle between primary and secondary windings give additional information about the winding condition. The TTR 2795 provides all these measurements in one compact instrument.

Transformer Turns Ratio Meter TTR 2795 is the next generation of the very successful Tettex transformer turns ratio meter line. The result of our close collaboration with worldwide TTR users and industry specialists in power and distribution transformers is this advanced instrument with its unbeaten performance.

The TTR 2795 measures turns ratio with the highest accuracy in the industry and has one of the largest turns ratio ranges commercially available.

This advanced instrument automatically recognizes winding connections and vector group numbers of transformer windings. Just connect the measuring cables and press the start button and get the test results.

The TTR 2795 provides a wide ratio range, which allows the user to determine the ratio accuracy of power-, distribution and instrument transformers.

In addition, the selectable test voltages of 100 V, 40 V, 10 V and 1 V avoid saturation effects on current transformers.

Features	Advantages
<ul style="list-style-type: none"> Highest measurement accuracy in the market of up to 0.03 % 	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Perfect tool for preventive maintenance measurement
<ul style="list-style-type: none"> Fully automated measurement of turns ratio, voltage ratio, phase displacement and excitation current 	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Reliable and fast measurement
<ul style="list-style-type: none"> Automatic winding connection identification AWCI (patented) and automatic vector group detection 	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Quick and easy operation
<ul style="list-style-type: none"> Safety connection control proofs test setup before applying test voltage 	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Avoid damage to personnel, test equipment and instrument
<ul style="list-style-type: none"> Built-in printer 	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Quick test report generation and prevention of data loss
<ul style="list-style-type: none"> Rotary-push-button for easy access to the menu structure 	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> User-friendly and self-explanatory interface
<ul style="list-style-type: none"> Large graphic display 	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Data at a glance and displays tap changer results in a clear graphic diagram
<ul style="list-style-type: none"> Lightweight, compact and rugged. Closed case is IP65 waterproof, open case is splash proof 	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Use in harsh environments
<ul style="list-style-type: none"> Remote control software 	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Easy operation, gathering and analyzing data on laptop/ PC

Applications

Turns ratio, voltage ratio, phase displacement and excitation current measurements according to ANSI, IEC and AS standards on:

- Power and Distribution Transformers
- Instrument Transformers

Scope of Supply

- TTR 2795 instrument in shell case
- Cable bag
- Two 3-phase cable sets (5 m spider and two sets of clamps)
- Remote control/ data storage/ report generation software
- USB cable for remote operation
- Mains cable
- Calibration certificate and Operating Manual.

Technical Data

Measurement				
Excitation voltage	1 V, 10 V, 40 V and 100 V; automatic and manual selectable			
Excitation current	Max. 1 A (10 mA at 1 V)			
Ratio	Range	Accuracy		
		@ 100 V	@ 40 V	@ 10 V
0.8 ... 100		± 0.03 %	± 0.05 %	± 0.05 %
101 ... 1000		± 0.05 %	± 0.05 %	± 0.05 %
1001 ... 1500		± 0.05 %	± 0.05 %	± 0.10 %
1501 ... 2000		± 0.05 %	± 0.05 %	± 0.15 %
2001 ... 4000		± 0.05 %	± 0.10 %	n/a
4001 ... 13000		± 0.15 %	n/a	n/a
13001 ... 20000		± 0.20 %	n/a	n/a
	Range	Resolution	Typical Accuracy	
Excitation current	0 ... 1 A	0.1 mA	± 0.3 % ± 2 mA	
Phase Angle	± 180°	0.01°	± 0.05°	
Hardware				
Display	5.2" dot matrix LCD 240 x 128 module with backlight			
Printer	Thermal strip printer, paper width 58 mm			
Software				
Memory	Stores up to 100 complete test results/ test setups			
Data formats	CSV, XML, HTML			
Interfaces	Computer:	RS 232c, 19200 baud, 9-pole		
	Tap changer:	3-pole contact in/out (potential free)		
Environmental Mechanical and Power Supply				
Operating temperature	-10 °C ... +55 °C (-10 °C typical, -5 °C guaranteed)			
Storage temperature	-20 °C ... +70 °C			
Humidity	5 ... 95 % r.h. non-condensing			
Dimensions (W x D x H)	410 x 310 x 170 mm (16 x 12.2 x 7 in)			
Weight	8.8 kg (19 lb) excl. cables			
Power Supply Specs	95 ... 240 V AC, 50/ 60 Hz , Max. 1.3 A			

(1) At Excitation voltage, values valid after a warmup-time of 30 min

Global Presence

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HIGH VOLTAGE



INSTRUMENTS



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