



Calculation from Weshine!

## **Transformer Turns Ratio Calculation**

Weshine® invented the Turns Ratio Tester for testing Transformer Turns Ratio Calculation with CE certificate, high quality and accuracy, Invented and produced according to national standards, complete electric testing solution available. Contact us for more details of Turns Ratio Tester for testing Transformer Turns Ratio



## Weshine® Turns Ratio Tester for testing Transformer Turns Ratio

### Calculation

The transformation ratio of a transformer is equal to the number of turns of the primary winding divided by the number of turns of the secondary winding. The transformer ratio provides the desired performance of the transformer and the corresponding voltage required by the secondary winding.

If the secondary voltage is required to be lower than the primary voltage - a step-down transformer - the secondary winding should have fewer turns than the primary and vice versa for a step-up transformer; when the transformer's ratio reduces the voltage, it increases the current and vice versa, Therefore, the voltage and current ratio of an ideal transformer is directly related to the transformation ratio.

Unfortunately transformers are not perfect, in a real transformer the voltage or current ratios may not match the physical ratios of the transformer due to various electrical losses such as in the transformer's iron core (hysteresis and eddy current losses) and copper . losses (due to the resistance of the primary and secondary windings); therefore, manufacturers try to design transformers to minimize these losses for maximum efficiency at full load, power conversion above 95%, thus providing a difference of no more than 5% from the transformer voltage ratio/turn ratio.

Weshine invented the transformer turns ratio test, or TTR test, for measuring **Transformer Turns Ratio Calculation** and confirms that the transformer has the correct ratio of primary turns to secondary turns. Using this test correctly can help to identify tap changer performance, shorted turns, open windings, incorrect winding connections and other faults inside transformers. Weshine's range of TTR testers are robust to withstand the harsh conditions that some transformer testing in. The range includes varying features to simplify and speed up testing as well as 3 phase TTR testers and PT and CT TTR testers.

The VS-6628 Series of three-phase transformer turns ratio test sets are designed to measure the turns ratio of power, instrument, and distribution transformers in a substation or manufacturing environment. A rugged and robust design makes these instruments well suited for use in a variety of harsh environments. Our leads are specially designed to provide the necessary flexibility needed in cold weather.

But since transformers are subject to various stresses and changes, both electrical and mechanical, during their lifetime, the correct turns ratio of the transformer must be checked before the transformer is put into service and during various maintenance schedules, here is the Transformer Turns Ratio Tester Therefore, the turns ratios measured using various transformer turns ratio test kits (TTR devices) include losses typically present in transformers, resulting in turns ratios that differ from the physical number of turns, but reflect the actual voltage ratios expected by manufacturers and users , or the ratio of a true transformer power transformer.

## Weshine® Turns Ratio Tester for testing Transformer Turns Ratio Calculation Parameter (Specification)

PRODUCT INFORMATION			
<b>Product Name</b>	<b>URNS RATIO TESTER FOR TESTING Transformer Turns Ratio Calculation</b>		
Model Number	VS-6628	Test Range	0.9 ~ 10000
Accuracy	0.2%	Certificates	CE; EMC; LVD; ISO;
Typical Application	Tests turns ratio, phase displacement and polarity.		
Aids in Identifying	* Shorted coils * Open circuits * Incorrect connections * Internal faults or tap-changer defects in step regulators as well as in transformers		
Dimensions	345 x 295 x 175 mm	Weight	5 kg

### Selections

Weshine has 8 years of experience specifically for deal with complete range of Electrical Equipment. At present, Weshine has invented various turns ratio tester for testing **Transformer Turns Ratio Calculation** as shown as form:

ORDERING INFORMATION FOR TURNS RATIO TESTER FOR TESTING Transformer Turns Ratio Calculation					
Cat. No.	Test Range	Accuracy	Resolution	Dimensions (mm)	Weight (kg)
VS-6628	0.9 to 10000	0.2%	0.0001 min	345 x 295 x 175	5
VS-6629	0.9 to 10000	0.1% (0.9 to 500) 0.2% (500 to 3000) 0.3% (3000 to 10000)	0.9~9.9999 (0.0001) 10~99.999 (0.001) 100~999.99 (0.01) 1000~9999.9 (0.1) 10000 and above (1)	325 x 225 x 125	3.8
VS-6630	0.9 to 10000	0.1% (0.9 to 2000) 0.3% (2000 to 10000)	0.0001 min	360 x 280 x 160	6
VS-6628T	0.8 to 10000	0.1% (0.8 to 3000) 0.2% (3000 to 10000)	0.0001 min	320 x 240 x 130	3
VS-6628A	0.9 to 10000	0.1% (0.9 to 500) 0.2% (500 to 3000) 0.3% (3000 to 10000)	0.9~9.9999 (0.0001) 10~99.999 (0.001) 100~999.99 (0.01) 1000~9999.9 (0.1) 10000 and above (1)	246 x 156 x 62	1.7

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Based on Supply Chain issues: Please contact your preferred Authorized Weshine Distributor for current pricing and lead times.

## Quality Certificates

We always believe that all the success of our company is directly related to the quality of the products we provide. Turns ratio tester for testing **Transformer Turns Ratio Calculation** meet the highest quality requirements specified in ISO9001, ISO14000:14001 guidelines and our strict quality control system.



## Shipment



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For further information on Weshine's Service Solutions, contact our 24/7 online sales representative to get quotes from Weshine.

## Contact us

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