



TTR-6300

Transformer Turns Ratio Tester



Ratio and Group, Read Off One Screen.

A portable turns ratio tester for distribution and power transformers, and for the instrument transformers alongside them. It measures the actual ratio and identifies the vector group, so a winding fault, a mis-set tap or a wrong connection shows up before the transformer is energised.

Ratio runs from 0.9 to 10000. Below a ratio of 2000 the accuracy is $\pm(0.2\% + 2 \text{ digits})$, and the display resolution steps with the ratio, finest at 0.0001 on the low ratios where a small error matters most.

Single-phase, three-phase and Z-type transformers are all covered, along with PT and CT. A three-phase blind test works out the group without it being entered first, which is the useful case when the nameplate is missing or no longer legible.

KEY FEATURES

- Turns ratio 0.9 to 10000
- $\pm(0.2\% + 2 \text{ digits})$ below a ratio of 2000
- Single-phase, three-phase and Z-type
- PT and CT testing
- Three-phase blind test, no group entered
- 500 groups over USB and Bluetooth

IDEAL FOR

- Distribution and power transformers
- Instrument transformers, PT and CT
- Commissioning and acceptance testing
- Routine maintenance and fault finding
- Transformer manufacture and repair

MEASUREMENT RANGES

Range	Accuracy	Resolution	Notes
Turns ratio · accuracy and resolution both step with the ratio			
0.9 to 10	$\pm(0.2\% + 2 \text{ digits})$	0.0001	
10 to 100	$\pm(0.2\% + 2 \text{ digits})$	0.001	
100 to 1000	$\pm(0.2\% + 2 \text{ digits})$	0.01	
1000 to 2000	$\pm(0.2\% + 2 \text{ digits})$	0.1	
2000 to 10000	$\pm(0.5\% + 2 \text{ digits})$	0.1	
10000 and above	Not specified	1	Beyond the specified range

The 0.0001 resolution applies below a ratio of 10. Above that it steps to 0.001, 0.01, 0.1 and finally 1, so check the resolution at the ratio you actually work at rather than the headline figure. Accuracy carries a two digit term in addition to the percentage. No accuracy is specified at or above a ratio of 10000.



WHAT'S IN THE BOX

- TTR-6300 transformer turns ratio tester
- Test leads, two sets, 10 m per set
- Type-C data cable, 1 m
- PC software on CD
- Battery charger, 14.8 V / 1.5 A
- Manual, warranty certificate and carry bag

TEST LEADS · Two sets at 10 m per set, one for the high voltage side and one for the low, colour coded to the A, B and C phase terminals so the connection order is unambiguous at the transformer.

GENERAL SPECIFICATIONS

Code	Item	Part Number
TTR-6300	Transformer turns ratio tester, 0.9 to 10000, single, three-phase and Z-type	806300

MEASURES

Transformer turns ratio and vector group · ratio and polarity on single-phase transformers, PT and CT

TERMINALS

Six: A, B and C on the high voltage side and A, B and C on the low · overload protection on the inputs

CONTROLS

Touchscreen with a physical keypad alongside · test, confirm, return and four-way navigation keys

VECTOR GROUPS

High voltage D, Y, YN or ZN · low voltage d, y or yn · groups 0 to 11, or determined by the instrument on a blind test

INTERFACES

USB Type-C to the supplied PC software, which reads stored records and generates spreadsheet reports · Bluetooth to the Android app for wireless measurement and data browsing

POWER

Rechargeable 9.6 V 3800 mAh lithium pack, charged from the supplied 14.8 V / 1.5 A charger · automatic shutdown settable from 1 to 30 minutes

SAFETY

IEC 61010-1 · CAT III 600 V · pollution degree 2 · IEC 61010-4-3, radiated field 1 V/m or below

ENVIRONMENT

Operating -10 to 40 °C · storage -20 to 60 °C · both below 70% RH

WARRANTY

1 year, subject to product registration with GPS LTD · service and calibration available

TEST TYPES

Single-phase, three-phase and Z-type transformers · PT and CT · three-phase blind test, with the group determined by the instrument

DISPLAY

5 inch full colour touchscreen, 854 × 480, active area 108 × 65 mm · English interface · real-time battery indication

RESULTS

Ratio, ratio error against the entered nameplate voltages, polarity, phase angle and the deduced tap position · three-phase reports AB/ab, BC/bc and CA/ca with the vector group

MEMORY

500 groups stored on the instrument, with recall and review on screen

PROTECTION

Overload check runs before every test · on detection the instrument warns and stops, and is restarted with the leads disconnected

CONSUMPTION

About 2 W on standby at full brightness · 12 W maximum while measuring

INSULATION

Above 10 MΩ at 500 V between circuit and housing · withstands AC 3700 V rms between circuit and enclosure

DIMENSIONS · WEIGHT

229 × 166 × 74 mm · 1.5 kg with battery · test leads a further 1.7 kg