TR 100

Single Phase Turns Ratio Tester

Outstanding Features

- Displays turns-ratio from 0.8–30,000 : 1
- Calculates turns-ratio percentage error
- Displays winding polarity, excitation current and phase angle
- Field portable rugged housing
- User-friendly interface
- Internal data storage for test records
- USB PC and USB flash drive interfaces
- Optional battery back-up
- Extended precision mode for testing under electrical noisy environment

The TR 100 is a microprocessor-based single phase automatic transformer turns ratio test instrument. This field portable lightweight unit is housed in a field rugged case. The TR 100 is designed to test the turns ratio of transformers of any size per the IEEE C57.12.90 standard.

Selectable Test Voltage for High Accuracy

The TR 100 offers a wide turns ratio measurement range from 0.8 to 30,000 to 1, with selectable test voltages of 4, 40 and 100 V, making it an ideal instrument for quick and easy testing of single or three-phase transformers. The selectable test voltages enable the instrument to measure turns ratios with high accuracy in an electrically noisy environment.

The TR 100 measures turns ratios per the IEEE C57.12.90 standard testing method. It is suitable for testing power transformers, current transformers (CT's), potential transformers (PT's), and voltage regulators. It can measures turns ratio, phase angle, excitation current and polarity.

User-friendly Interface

Test results are displayed on a color back-lit LCD screen (800 x 480 pixels) that is viewable in bright sunlight and low-light conditions. A full-sized, 44 key QWERTY-style keypad greatly simplifies the entry of the name plate details of the transformer under test. Once a test is complete, the TR 100 calculates the percentage error along with other test results.

The TR 100 makes testing three phase transformers simple by providing clear instructions and test connection information on the color LCD screen

Test Record Storage and Comprehensive Test Reports

The TR 100 can store 150 test records of 33 readings internally, which can be transferred to an external USB Flash drive. Test records can be accessed or transferred to the pc via the USB PC interface and the provided software. Using the included software, test results can be exported in PDF and Excel formats.

Optional Battery Backup

TR 100 can be ordered with the optional rechargeable battery backup for exceptional portability. The battery backup provides up to 4 hours of test time.

Extended Precision Mode

The TR 100 also has an optional "Extended Precision" mode for testing transformers in an electrically noisy substation environment. In this mode, a special circuit in the TR 100 eliminates the power frequency noise signals and makes a very accurate measurement of the turns ratio.

Cables and Accessories

TR 100 is furnished with all required cables in a cable bag. The included cables consist of one set of 16' (5 m) H and X cables, one power cord and one USB PC cable. An optional shipping case is available for easy transportation.

PDIC
POWER DIAGNOSTIC INSTRUMENT COMPANY

TR 100 Technical Specifications

Physical Specifications	**Dimensions:** 14"W x 6"H x 11" D (31.3 cm x 15.2 cm x 27.9 cm) **TR 100 Weight without Battery:** 12 lbs. (5.4 Kg) **TR 100 Weight with Battery:** 15 lbs. (6.8 Kg)
Operating Voltage	90 – 240 Vac, 50/60 Hz
Measuring Method	ANSI/IEEE C57.12.90
Turns Ratio Accuracy	**4 Vac:** 0.8–1,000 (±0.03%), 1,001–4,000 (±0.05%) 4,001–10,000 (±0.07%), 10,001–30,000 (±0.16%) **40 Vac:** 0.8–1,000 (±0.03%), 1,001–4,000 (±0.05%) 4,001–10,000 (±0.07%), 10,001–30,000 (±0.16%) **100 Vac:** 0.8–1,000 (±0.03%), 1,001–4,000 (±0.05%) 4,001–10,000 (±0.07%), 10,001–30,000 (±0.16%)
Phase Angle Measurement	0 – 360 degrees
Accuracy	±0.2 degree (±1 digit)
Polarity Reading	In-phase or out-of-phase indication
Display	800 x 480 pixels back-lit color LCD; viewable in direct sunlight and low light
Computer Interface	USB 2.0
Internal Data Storage	128 records of 33 readings
PC Software	Windows®-based transformer analysis software is included
Safety	IEC/EN 61010-1, EN 61326-1, EN 61000-3, and EN 61000-4 certified. UL 61010A-1, and CSA-C22.2 standards.
External Data Storage	USB flash drive interface (drive not included)
Humidity	90% RH @ 40°C (104°F) non-condensing
Temperature	**Operating:** -10°C to +50°C (+15°F to +122°F) **Storage:** -30°C to +70°C (-22°F to +158°F)
Altitude	2,000 m (6,562 ft)
Included Cables	One 16' (4.6m) single phase cable, one power cord, one USB cable, one cable bag
Warranty	Two years on parts and labor
Options	Shipping case (can hold unit and cables)

Specifications are valid at nominal voltage and ambient temperature of +25°C (+77°F)

POWER DIAGNOSTIC INSTRUMENT COMPANY
www.pdicus.com

5010 E. Shea Blvd., Suite 240
Scottsdale, AZ 85254
Phone: +1-602-732-1099
E-Mail: sales@pdicus.com