

TR8703

Digital transformer ratiometer

Designed for testing power, potential and current transformers



Features

- Measures power transformers, VT/PTs and current transformer CT turns ratios
- Displays turn ratio, excitation current, winding polarity and % deviation from the nameplate values
- Universal voltage (90-240 V supply, 50-60 Hz) via external smart/fast battery charger; complete charge in less than 4 hours
- Two internal NiMH batteries provide up to 10 hours of continuous operation
- Tests performed by exciting the primary and reading the secondary; provides safer conditions for the operator
- Display warns of incorrect lead connection, reverse polarity, open and short circuits
- Easy connection and test setup; no calibration or balancing required
- Large dual display with adjustable contrast ensures clearer visibility in any lighting environment day or night
- Low battery indicator
- Includes 15 foot lead set and soft carrying bag
- Stores up to 10,000 test results in internal memory
- USB port facilitates configuring the instrument and downloading test results
- Includes a software for programming, downloading, storing and report generation of test data
- EN 61010-1; 50 V CAT IV

Description

The Transformer Ratiometer **TR8703** is a lightweight, rugged, portable instrument designed for onsite testing of power, potential and current transformers. No user calibration, range selection, hand cranking or tedious balancing is required. During each test cycle, the **TR8703** automatically checks for H/X lead reversal, continuity of tested circuits/windings (if configured) and short circuit conditions (high current).

Upon completion of a test cycle, the **TR8703** displays the turns ratio, excitation current, polarity and deviation which are useful parameters in diagnosing and predicting a variety of faults that occur in power, potential and current transformers.

The **TR8703** utilizes an advanced, low-voltage, step-down measurement technique in which the high voltage "H" windings are subjected to test excitation. This results in greater operator safety and the ability to test a much wider array of transformer types and sizes.

In addition, the **TR8703** allows the user to store the data in automatic or manual mode after each test eliminating the need to write down the test results. Each measurement record is date and time stamped providing complete test information. The user can also save Nameplate voltages and compare the results as the data is being gathered. The data can later be downloaded to a PC and analyzed using a software which is included with the product.



Technical specifications

TR8703

ELECTRICAL		
Ratio range (VT/PT)	Autoranging: 0.8000 to 8000:1	
Accuracy (VT/PT)	Ratio range	Accuracy (% of reading)
	0.8000 to 9.9999	± 0.2 %
	10.000 to 999.99	± 0.1 %
	1000.0 to 4999.9	± 0.2 %
	5000.0 to 8000.0	± 0.25 %
Ratio range (CT)	Autoranging: 0.8000 to 1000.0	
Accuracy (CT)	Ratio range	Accuracy (% of reading)
	0.8000 to 1000.0	± 0.5 %
Excitation signal	VT/PT Mode: 32 Vrms max. CT Mode: Auto Level 0 to 1 A, 0.1 to 4.5 Vrms	
Excitation current display	Range: 0 to 1000 mA; Accuracy: ± (2 % of reading + 2 mA)	
Excitation frequency	70 Hz	
Display	Dual line alpha-numeric LCD, 16x2 characters with contrast adjustment and backlight control. Day/night visible.	
Measurement method	In accordance with IEEE Std C57.12.90™-2006	
Power source	Two 12 V, 5x2, 1650 mAh NiMH rechargeable battery packs	
Battery life	Up to 10 hrs of continuous operation. Low battery indication.	
Battery charger	Universal input (90 to 264 Vrms input) smart recharger	
Charging time	< 4 Hrs	
Data storage	99 objects with 99 tests each	
Date / Time	Battery-backed, Real-time clock	
Communication	USB. 2.0 compliant, optically isolated, 115.2 kB	
Software	Analysis software included	
MECHANICAL		
Dimensions	10.70 x 9.76 x 5.12" (272 x 248 x 130 mm)	
Weight	8.1 lbs (3.7 kg)	
Connection	XLR connectors	
Leads	15 ft (4.6 m) H & X shielded with large color-coded industrial alligator clips in carrying bag	
Enclosure	Heavy duty polypropylene case, UL 94 V0	
Vibration	IEC 68-2-6 (1.5 mm to 55 Hz)	
Shock	IEC 68-2-27 (30 G)	
Drop	IEC 68-2-32 (1 m)	
Index of protection	IP40 (Instrument lid open) per EN 60529; IP53 (Instrument lid closed) per EN 60529	
ENVIRONMENTAL		
Operating temperature	14 °F to 122 °F (-10 °C to 50 °C)	
Storage temperature	-4 °F to 140 °F (-20 °C to 60 °C)	
Relative humidity	10 to 85 % RH @ 35 °C	
SAFETY		
Safety rating	EN 61010-1; 50 V CAT IV; Pollution Degree 2	
Double insulated	Yes	
CE Marking	Yes	
INCLUDED ACCESSORIES		
Power cord, set of 15 ft cables, carrying bag, 10 ft USB cable, external battery charger (90-264 VAC 50/60 Hz), software CD-ROM and user manual.		