



## TEST EQUIPMENT RENTAL SERVICES

When you rent Test Equipment from TDC, we want you to know that you will have a dedicated personal service from start to finish. Our Customer Service team is here to support you throughout your rental period.

TDC are independent specialists promoting all high quality manufacturers and instrument types. Equipment can be delivered Next Day or Same Day to suit your requirements.

When you are finished, simply contact us to arrange your equipment collection or alternatively you can despatch it back to us – we make it easy.

## RENTING FROM TDC JUST MAKES SENSE

By using TDC Test Equipment Rental Solutions, you benefit from our extensive rental inventory that is second to none. We constantly refresh our equipment range with branded equipment manufacturers such as Megger, FLUKE, Chauvin Arnoux, OMICRON, FLIR, b2 HVA, Agilent Technologies, Dranetz BMI, Fujikura, JDSU, Ametek Jofra, GE DRUCK, RAE Systems, TSI Airflow, Rohde & Schwarz, NORBAR, PANAMETRICS, Tektronix and many more.

You can utilise our rental equipment to suit your own requirements, from one week to as many months as you need. You only pay for what you use down to the day. Renting with TDC is straightforward and easy. Our expert Sales and Applications Engineers will find the best solution to suit your application.

Delivery & Collection is arranged by us - we make it hassle free and easy.

## TDC 6 POINT RENTAL GUARANTEE - OUR REPUTATION MATTERS



### 1 SAME DAY DISPATCH

Many of our customers operate to very strict deadlines. Providing the order is placed and confirmed before 3pm, your equipment will be despatched the same day.



### 2 QUALITY

All Equipment is checked prior to dispatch to ensure it is servicable and in safe working order. Certification checks are standard.



### 3 SUPPORT

We will provide you with enough information to make an informed choice of the correct equipment required for your application.



### 4 PRICE

We offer a simple price match promise. We'll match any genuine competitor quote.



### 5 CUSTOMER SERVICE

We can promise that throughout your rental period, we will do our utmost to provide you with the best customer service. All information we provide is in good faith and free of charge. We will provide a quote for any consultancy or professional advice that may be required.



### 6 REPUTATION

We know we are only as good as our last job. We don't just want regular customers - we want to build loyal customers.



For all enquiries, please contact: Gordon Thow (Test Equipment Rental Manager)

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**TEST EQUIPMENT RENTAL SERVICES**

# DTR 8510 High-Performance Ratiometer

Datasheet

# HIGH-PERFORMANCE RATIO METER



## DIGITAL TRANSFORMER RATIO METER



### A powerful ratio tester that stores up to 10,000 test results in internal memory

- Measures turns ratios on power transformers, VT/PTs and current transformers (CTs)
- Direct Turns Ratio readings from 0.8000:1 to 8000.0:1
- Tests performed by exciting the primary and reading the secondary for greater operator safety
- Displays turns ratio, excitation current, winding polarity and % deviation from the nameplate values
- Internal NiMH battery packs provide up to 10 hours of continuous operation
- Display warns of incorrect lead connection, reverse polarity, open and short circuits
- Includes DataView<sup>®</sup> analysis software

# POWERFUL RATIO TESTER

# DTR® 8510



The DTR® 8510 is a portable digital transformer ratiometer designed for on-site testing of power, potential and current transformers. When connected to a non-energized transformer, the DTR® accurately measures the primary-to-secondary turns ratio, while simultaneously displaying the polarity and excitation current.

The DTR® 8510 is a second-generation instrument incorporating the latest technology, improving on its highly successful predecessor the DTR® 8500.

**The DTR® is fully automatic** and uses the IEEE C57.12-90™-2006 test method:

- No user calibration
- No user range selectio
- No hand-cranking
- No tedious balancing required

At each measurement, the DTR® automatically checks for open windings, connections, circuit-breakers, short circuits (excess excitation current), incorrect test lead placement, and reverse polarity.

The DTR® is designed with operator safety in mind. Tests are performed at low voltage and, unlike on other ratiometers, step-down excitation is employed. This method, in conjunction with an integral H/X reverse protection circuit, **guards against the generation of hazardous test voltages.**

Up to 10,000 tests can be stored in the DTR® 8510's internal memory. A large, dual line alphanumeric LCD with adjustable contrast and backlighting guarantees fast, accurate display and day/night readability. Both rugged and reliable, the DTR® 8510 is equipped with an attractive, sealed structural polypropylene case designed to withstand the rigours of field use.

Power is supplied by a built-in NiMH battery charged by an external smart charger.

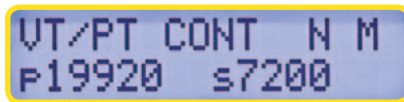
## ▶ FEATURES

- Measures power transformers, VT/PTs and current transformer turns ratios
- Displays turns ratio, excitation current, winding polarity and % deviation from the nameplate values
- Smart/fast battery charger with universal input voltage (100-240V, 50-60Hz) charges batteries in less than 4 hours
- Internal NiMH battery packs provide up to 10 hours of continuous operation
- Tests performed by exciting the primary and reading the secondary for greater operator safety
- 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
- Filter selection to improve test results in electrically noisy environments
- Filter selection to improve test results in electrically noisy environments
- USB port to simplify instrument configuration and downloading of test results
- Includes DataView® analysis software for programming, downloading and storing test data with possibility of report generation

# CONSTRUCTION



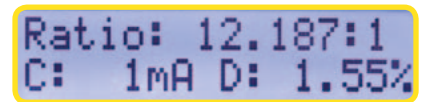
## Simple, concise operation – clear informative data displays



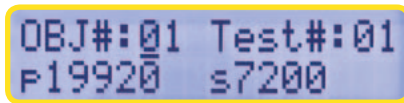
Main display



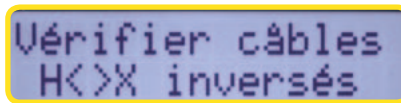
Easy selection of measurement mode



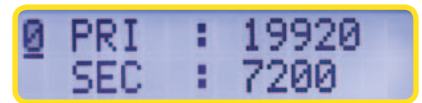
Display of measurement results



Storage of results in internal memory



Clear indication of connection errors and other problems



Programming and storage of 10 nameplate ratios

# SOFTWARE

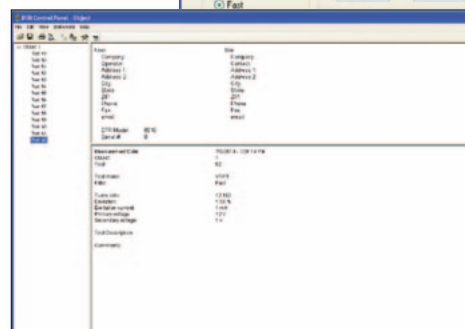
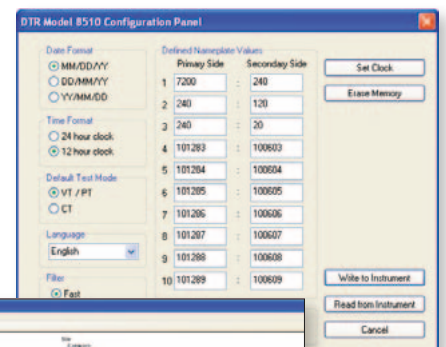
## DataView® Data Analysis and Reporting Software

### Configure all functions of the DTR® 8510

- ▶ Display and analyse data on your PC
- ▶ Configure DTR® 8510 functions and parameters from your PC
- ▶ Customize views, templates and reports for your specific needs
- ▶ Create and store a complete library of configurations that can be uploaded to the DTR® 8510 as needed
- ▶ Run tests directly from your PC
- ▶ Print reports using standard or custom templates that you design



DataView® is included with the DTR® 8510





Measurement on a transformer in the workshop



Measurement of the ratio on a current transformer



Measurement on a 2,000 kVA three-phase transformer in the field

## SPECIFICATIONS

<b>Ratio Range (VT/PT)</b>	Auto-Ranging : 0.8000 to 8000 :1	
<b>Accuracy (VT/PT)</b>	<b>Ratio Range</b>	<b>Accuracy (% of Reading)</b>
	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%
<b>Ratio Range (CT)</b>	Auto-Ranging : 0.8000 to 1000.0	
<b>Accuracy (CT)</b>	<b>Ratio Range</b>	<b>Accuracy (% of Reading)</b>
	0.8000 to 1000.0	± 0.5%
<b>Excitation Signal</b>	VT/PT Mode : 32 Vrms max; CT Mode: Auto Level 0 to 1 A, 0.1 to 4.5 Vrms	
<b>Excitation Current Display</b>	Range : 0 to 1000 mA; Accuracy : ± (2% of Reading + 2 mA)	
<b>Excitation Frequency</b>	70 Hz	
<b>Display</b>	Dual-line alphanumeric LCD, 16x2 characters with contrast adjustment and backlight control. Day/night visible.	
<b>Languages Supported</b>	English, Spanish, French, Italian, German, Portuguese	
<b>Measurement Method</b>	In accordance with IEEE Std C57.12.90™-2006	
<b>Power Source</b>	Two 12V, 1650mAh NiMH rechargeable battery packs	
<b>Battery Life</b>	Up to 10 hrs of continuous operation. Low battery indication.	
<b>Battery Charger</b>	Universal input (90 to 264Vrms input) smart recharger	
<b>Charging Time</b>	< 4 hrs to full charge	
<b>Data Storage</b>	10,000 tests	
<b>Date / Time</b>	Battery-backed, Real-time clock	
<b>Communication</b>	USB. 2.0 compliant, optically isolated, 115.2 KB	
<b>Software</b>	DataView® analysis software included	

## MECHANICAL

<b>Dimensions</b>	10.70 x 9.76 x 5.12" (272 x 248 x 130 mm)
<b>Weight</b>	8.1 lbs (3.7 kg)
<b>Connection</b>	XLR connectors
<b>Leads</b>	15 ft (4.6m) H & X shielded with colour-coded crocodile clips
<b>Enclosure</b>	Heavy-duty Polypropylene case, UL 94 V0 rated
<b>Vibration</b>	IEC 68-2-6 (1.5 mm to 55 Hz)
<b>Shock</b>	IEC 68-2-27 (30 G)
<b>Drop</b>	IEC 68-2-32 (1 m)
<b>Index of Protection</b>	IP 40 (Instrument lid open) per EN 60529 : IP 53 (Instrument lid closed) per EN 60529

## SAFETY

<b>CE Marking</b>	Yes
<b>Double Insulation</b>	Yes
<b>Safety Ratings</b>	EN 61010-1; 50V CAT IV; Pollution Degree 2

## TO ORDER

DTR® 8510 digital transformer ratiometer.....P01157702

### Replacement parts

Set of 2 spare leads, length 15 ft (4.6 m) for DTR® 8510 and DTR® 8500.....P01295143A

## REFERENCES

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Control Panels



Compressors



Auxiliary Power Systems

To differentiate our organisation in order to achieve continuous, sustainable growth, TDC endeavours to fully understand and exceed the expectations of our customers, and to work proactively to deliver **Engineering Excellence**.



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