

## **TE 1000 RF IMPEDANCE ANALYZER**



### **VECTOR IMPEDANCE METER**

#### **Measures**

- **Vector Impedance**
- **SWR**
- **R-L-C Equivalent Circuit**
- **Vector Reflection Coefficient**
- **Return Loss**
- **0.5-150MHz**
- **<1 to >10kOhm**
- **Highly Accurate Portable**

**A high precision portable test instrument at a very attractive price**

#### **Key features:**

- completely portable, for use on the bench or in the field
- precise vector impedance measurements from less than  $1\Omega$  to more than  $10k\Omega$
- frequency range 0.5MHz to 150MHz, fully synthesized
- directly displays vector impedance, reflection coefficient, SWR, return loss, R-L-C equivalent circuit
- sophisticated PC based software included to allow data logging, frequency sweeping and range of graphical displays

## Overview of TE1000 RF Impedance Analyzer

The Tomco TE1000 RF Impedance Analyzer is a powerful, easy to use test instrument providing outstanding performance at a very affordable price.

Typical applications include :-

- **RF engineering design and development**
- **antenna testing and tuning**
- **impedance matching**
- **component test**
- **cable fault finding**
- **filter design and test**
- **cutting cables to precise electrical lengths**

The TE1000 impedance analyzer is a versatile, portable test instrument, which enables the user to make highly accurate impedance measurements at RF frequencies. The TE1000 has full vector measurement capability, and accurately resolves the resistive, capacitive and inductive components of a load. The user can display the vector impedance plus a range of related parameters including SWR, reflection coefficient, return loss and R-L-C equivalent circuit. These features make the TE1000 ideally suited for precision bench testing and development while also making it a superior alternative to portable SWR meters and antenna testers which can only provide a fraction of this information.

The TE1000 impedance analyzer operates from 0.5-150MHz. The unit is rugged, lightweight and can be powered by mains or by internal battery making it ideally suited for both benchtop and portable use. The unit's RS232 interface and PC based software further increase the power of the instrument, by providing swept frequency capability and facilities for complex data analysis, data logging and graphical display. The TE1000 is supplied in a lightweight, rugged aluminium case.

Our product offers similar functionality to other major manufacturers products with comparable accuracy and many additional features at a fraction of the cost. The TE1000 offers:-

- complete portability with the option of operating on batteries or plugpack
- powerful built-in computational capabilities allow the TE1000 to display a wider range of parameters:- not just impedance, but also reflection coefficient, series or parallel R-L-C equivalent circuit, SWR and return loss
- sophisticated built-in algorithms eliminate contamination of measurements due to stray reactance's in the probe
- vector quantities can be displayed in polar or rectangular co-ordinates
- swept frequency measurements and data logging via a simple serial interface (software supplied)
- sophisticated, user friendly software to log and display data in a range of plots including Smith charts
- range of adapters available allowing the probe to connect directly to N-type connectors or to surface mount components via tweezer adapter
- calibration certificate available
- The TE1000 RF impedance analyzer is also referred to as a vector impedance meter and a capacitance meter.

## SPECIFICATION

### Model number

TE1000

### Frequency range

0.5 - 150MHz

### Frequency Resolution

0.500 - 9.999MHz in 1kHz steps

10.00 - 99.99MHz in 10kHz steps

100.0 - 150.0MHz in 100kHz steps

### Impedance measurement range

Measures impedance at any angle.

Magnitude range 1Ω to 1kΩ

### Measurement speed

Display updated every 500 milliseconds approx.

### Typical accuracy of measurement

The accuracy depends on the impedance being measured. Guaranteed accuracy for 3 standard impedance's are listed below

**impedance=50Ω** magnitude  $\pm 1\%$ , angle  $\pm 1^\circ$

**impedance=10Ω** magnitude  $\pm 3\%$ , angle  $\pm 3^\circ$

**impedance=1kΩ** magnitude  $\pm 2\%$ , angle  $\pm 3^\circ$

### Measurement modes

- Complex impedance in polar or rectangular form
- R-L-C in series or parallel equivalent circuit format
- SWR for any system characteristic impedance
- Complex reflection coefficient for any system characteristic impedance.
- Return loss in dB for any system characteristic impedance
- Swept measurements and data logging to a PC via the RS232 serial port

### SWR measurement range

Greater than 100:1 (depends on system characteristic impedance)

### Power source

DC plug-pack or internal battery (auto power-save in battery mode)

### Display

80 character alphanumeric LCD

### Measurement Probe

Active probe on 1 metre cable.

Allows direct in-circuit measurements.

### Interface

RS232 on 9-pin D

Software runs under Windows 95/98

### Weight

1.9kg

### Dimensions

250w x 200d x 80h

### Accessories

- Operation handbook (supplied)
- Windows interface software permits swept frequency measurements and data logging (supplied)
- Coaxial adapter (adapts the probe to plug directly onto an N-type 50 ohm connector)(supplied)
- Spring-loaded probe grounding pin (optional extra)
- SMD tweezer fixture (optional extra)
- Protective hard carry case with shoulder strap

Specifications subject to change with out notice

Telonic Instruments Limited, Toutley Industrial Estate, Toutley Road, Wokingham, Berkshire. U.K.

Tel: +44 (0) 118 9786911. Fax: +44(0) 118 9792338. E-Mail [info@telonic.co.uk](mailto:info@telonic.co.uk) Web: [www.telonic.co.uk](http://www.telonic.co.uk)