



# TE3000/1

## NETWORK/IMPEDANCE ANALYZER

Model Number	TE3000/TE3001
Frequency range	0.03-300 MHz
Frequency resolution	1Hz
Frequency Accuracy	+/-10PPM
Output Signal	<p>TE3000: User adjustable to 150% Normal output (100%) is 230mVpp open circuit</p> <p>TE3001: User adjustable to 150% Normal output (100%) is 1Vpp open circuit</p>
Input Protection	<p>TE3000: Diodes begin clamping the input signal at 1Vpp Max input voltage is 50VDC or AC peak</p> <p>TE30001: Diodes begin clamping the input signal at 4Vpp Max input voltage is 50VDC or AC peak</p>
Source Impedance	Approx 35 Ohms
Impedance range	Angle: -90 to +90 degrees Magnitude: 0.1 Ohms to 100k Ohms
Measurement Resolution	Z: 3 Significant figures to 0.001 Ohms, 0.1 Degrees C: 3 Significant figures to 0.1 pF L: 3 Significant figures to 0.1 nH S11: 3 Significant figures to 0.001 Mag, 0.1 Degrees

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Typical Measurement Accuracy	<p>The accuracy depends on the load being measured, the quality of calibration and degree of averaging. Typical accuracy for 3 standard loads at 36 points over the available frequency range is tabled below in polar reflection coefficient format, after factory calibration, with averaging = 64 and 100% power output.</p> <p>TE3000:</p> <ul style="list-style-type: none"> <li>1 Ohm, magnitude +/-7%, angle +/- 3 degrees</li> <li>10 Ohm, magnitude +/-1%, angle +/- 0.5 degrees</li> <li>50 Ohm, magnitude +/-0.2%, angle +/- 0.2 degrees</li> <li>1k Ohm, magnitude +/-2%, angle +/- 1 degrees</li> <li>10k Ohm, magnitude +/-5%, angle +/- 2 degrees</li> <li>100k Ohm, magnitude +/-7%, angle +/- 3 degrees</li> </ul> <p>TE3001:</p> <ul style="list-style-type: none"> <li>S11=1.0, magnitude +/-0.005 angle +/-0.6 degrees</li> <li>S11=0.6, magnitude +/-0.006 angle +/-0.4 degrees</li> <li>S11=0.0, magnitude +/-0.007</li> </ul>
System Impedance Zo (user defined)	User defined - must be a real positive number (used to calculate VSWR, return loss and reflection coefficient)
Measurement speed	25ms (no averaging)
Averaging (user defined)	1-1000
Calibration	<p>512 point, 3 error bilinear transform correction held in non-volatile memory with user adjustable frequency span.</p> <p>Comes factory calibrated against 5 known loads, referenced to a HP8753D network analyzer with HP85032B Cal kit. The unit is supplied with a full calibration certificate.</p> <p>Optional custom calibration can be performed using one of the available calibration kits (see optional accessories).</p> <p>Cal files can be up or down loaded and saved to disc.</p>
Measurement Modes and Formats	<p>Impedance -Polar, rectangular, parallel</p> <p>Admittance -Polar, rectangular</p> <p>RLC series or parallel equivalent</p> <p>VSWR</p> <p>Reflection coefficient -Polar, rectangular</p> <p>Return loss -dB</p> <p>Mismatch loss -dB</p> <p>Quality factor</p> <p>Cable Loss -dB</p> <p>Cable length -Degrees, %Lambda</p> <p>Swept measurements to PC via USB or RS232 serial port</p>
Special Functions (run from software)	<p>Interference spectrum scan</p> <p>Distance to fault</p> <p>Time domain impulse response</p> <p>Velocity Factor</p> <p>Characteristic impedance</p>
Power source	DC plug-pack or internal battery (auto power-save in battery mode)
Display	4x20 character alphanumeric LCD

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Measurement method	V/I technique
Interface	USB
Software	<p>"Java software runs on Windows7/XP and includes all drivers. It provides plotting/saving/retrieving of all parameters, multi series plotting, difference plotting, cursors and annotations. Files are saved in .csv format and may be opened by excel. Sweep modes available: Single frequency sweep Linear sweep Logarithmic sweep Signal scan Loop function"</p>
Battery	2.2Ah, ~2 hours of battery operation at full charge. Charging time: 20mins
Weight	1.9kg
Dimensions	250w x 200d x 80h (mm)
Included Accessories	<p>UK/US/EU Mains power pack USB cable Serial Cable Java based PC software 3 piece N type SOL calibration kit Protective hard carry case with shoulder strap</p>
Optional Accessories	<p>TE3001:  <ul style="list-style-type: none"> <li>• 3 piece N type Male SOL custom calibration kit</li> <li>• 3 piece N type Female SOL custom calibration kit</li> <li>• N to BNC male adaptor</li> <li>• N to BNC female adaptor</li> </ul>   TE3000:  <ul style="list-style-type: none"> <li>• TM5200 Tweezer Attachment</li> <li>• TM5201 Passive Probe Head</li> <li>• TM5202 Test Cable</li> <li>• 3 piece N type Male SOL custom calibration kit</li> <li>• 3 piece N type Female SOL custom calibration kit</li> <li>• N to BNC male adaptor</li> <li>• N to BNC female adaptor</li> </ul> </p>

*Specifications subject to change*

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