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Data Sheet 8.76/2

Power Analyzer for Transformer Loss Measurements, Type WT 3000

Application

The power analyzer WT 3000 is a precise instrument for the measurement of power as well as important parameters related to the waveform of the test voltage and current. Together with associated voltage and current instrument transformers it forms a power measuring system for the evaluation of transformer losses.

Features

The power analyzer WT 3000 is equipped with three power modules consisting of one voltage and one current channel each. It provides a very precise and stable power measurement technology. Beside the basic capability for the measurement and calculation of any kind of voltage, current and power characteristics it is equipped with additional firmware extensions, which are very useful for transformer diagnostics: The delta calculation function (/DT) enables the calculation of phase voltages from line voltages. The cycle-by-cycle function (/CC) measures parameters of the voltage, current or power and lists the data on the screen in a time series. The advanced computation option (/G6) enables the measurement of harmonic data. Individual frequency components of waveforms and distortion factor can be determined. The provided WTViewer application software reads numeric, waveform and harmonic data measured with the power analyzer. The data can be displayed and stored on the PC.

Design

The front side of the power analyzer has a very user-friendly design. The largest area on the front side is occupied by the color TFT LCD monitor. It displays the measured and calculated parameters as well as voltage and current waveforms. Number and size of displayed items or groups of measured parameters can easily be selected. A column of pushbuttons next to the display allows to handle sub-functions or to make selections. The second central element is the range indicator area with seven-segment green LED display, where the measuring range can simply be adapted using up / down keys. The design of the front panel is completed by separated pushbutton areas for navigation, selection of display settings, items, trigger and measurement configurations as well as for the data storage. A PC-card slot and two USB-ports for data storage or the connection of an external keyboard are located on the left side. The terminals of the three power modules and the RJ 45 connector for the Ethernet can be accessed on the rear side of the device.

Table 1: Technical Data

Model		7603-30
Power modules		3
Voltage channels		
Measurement range (RMS)	V	15 – 1000 (8 steps)
Maximum input voltage (Peak)	kV	2.5
Input impedance (approx.)	MΩ / pF	10 / 5
Terminal		Plug-in (safety terminal)
Current channels		
Measurement range (RMS)	mA	5 – 2000 (9 steps)
Maximum input current (Peak)	A	6
Input impedance (approx.)	mΩ / μH	500 / 0.07
Terminal		Large binding post
Basic power accuracy	%	0.05 (of reading) + 0.05 (of range)
Bandwidth	MHz	1
Rated supply voltage (AC)	V	100 - 240
Rated supply voltage frequency	Hz	50 / 60
Maximum power consumption	VA	150
Display		8.4-inch color TFT LCD monitor
Length (approx.)	mm	459 + 32
Width (approx.)	mm	426 + 26
Height (approx.)	mm	177 + 20
Weight (approx.)	kg	15
Advanced firmware configuration		
Delta calculation function		7603/DT
Harmonic measurement		7603/G6
Cycle-by-cycle measurement		7603/CC
Interfaces		
Ethernet		7603/C7
USB-port (front side)		7603/C5 (keyboard / data storage)
PC software		
WTViewer		7601 - 22