

T419 Compliance Testers

- Insulation (50,100,250,500,1000V)
- Loop resistance
- Line impedance
- Global earth
- Phase rotation
- 350 Memory locations

- Loop resistance
- Line impedance
- Loop impedance
- Global earth resistance
- Short circuit/loop current calculation
- Phase rotation

COMBITEST T419 is a multifunction tester joining in a single unit features and functions which can be traditionally found in separate instruments.

Use

COMBITEST T419 carries out testing on electrical installations according to IEC 61557, continuity test of earth, protective and potential equalizing conductors with test current higher than 200mA and open circuit voltage ranging from 4V to 24V, insulation resistance with voltage of 50V,100V, 250V, 500V ,or 1000V, tests on general and selective RCD's type A and AC (tripping time, tripping current, contact voltage, total earth resistance without RCD tripping),line and /or fault loop impedance measurement with calculation of prospective short circuit current, phase sequence indication.

Functions

- Continuity (>200mA)
- Insulation (50,100,250,500,1000V)
- A, AC and selective RCD tripping time
- A and AC and selective current



Meter Supplied With Calibration Certificate



Optional Accessories: TOPVIEW - C2006 USB Cable and Software

Technical Specification

Function	Range	Basic Accuracy	Resolution
Low Ohm <small>(I_{test}>200ma R<16Ω/I_{test}>40ma R>16Ω)</small>	0,00 ÷ 9,99Ω 10,0 ÷ 99,9Ω	±(2% reading + 2 Digit)	0,01Ω 0,1Ω
Insulation	0,01mΩ ÷ 99,9MΩ/50V 0,01mΩ ÷ 199,9MΩ/100V 0,01mΩ ÷ 249MΩ/250V 0,01mΩ ÷ 499,9MΩ/500V 0,01mΩ ÷ 1999MΩ/1000V	±(5% reading + 2 Digit)	0,01Ω - 0,1Ω 0,01Ω - 1,0Ω 0,01Ω - 1,0Ω 0,01Ω - 1,0Ω 0,01Ω - 1,0Ω
RCD Tripping Time	10,30,100,300,500mA/1 ÷ 999ms (1/2IΔN, IΔN) 10,30,100,300,500mA/1 ÷ 200ms (2IΔN, RCD Type G) 10,30,100,300,500mA/1 ÷ 250ms (5IΔN, RCD Type S) 10,30,100,300mA/0 ÷ 50ms (5IΔN, RCD Type G) 10,30,100,300mA/0 ÷ 160ms (5IΔN, RCD Type S)	±(2% reading + 2 Digit)	1ms
RCD Tripping Current	(0,5 ÷ 1,4) IΔN (RCD type AC) (0,5 ÷ 2,0) IΔN (RCD type A)	±10%IΔN	0,1% IΔN
RCD Loop Resistance	0 ÷ 2kΩ/I _{test} = (1/2)IΔN	±(2% reading + 2 Digit)	1Ω
RCD Contact Voltage	50,100v	±(2% reading + 2 Digit)	0,1V
Line/Loop Impedance <small>(I_{test}=6,64a For 230v / 11,5a For 400v)</small>	0,01 ÷ 19,99Ω 10,0 ÷ 199,9Ω 200 ÷ 1999Ω (P - PE)	±(5% reading + 2 Digit)	0,01Ω 0,1Ω 1Ω
Line/Loop Impedance	0,01 ÷ 19,99Ω 10,0 ÷ 199,9Ω 200 ÷ 1999Ω (P - PE)	±(5% reading + 3 Digit)	0,01Ω 0,1Ω 1Ω
Global Earth Resistance	0,01 ÷ 9,99Ω 10,0 ÷ 1999,9Ω 200 ÷ 1999Ω (P - PE)	±(5% reading + 3 Digit)	0,01Ω 0,1Ω 1Ω
Phase Rotation	0 ÷ 415V Single - phase system Display: 123 Correct - 132 Incorrect	±(2% reading + 2 Digit) ±(5% reading + 5 Digit)	±0,5Hz
Voltage	0 ÷ 415V two-phase or three-phase system	±(5% reading + 5 Digit)	0,1V

Model Specification T419

Optional Accessories	Software & USB cable (TOPVIEW)
Standard Accessories	Test leads Carry case English instruction manual Calibration certificate ISO9000
Dimensions (mm)	240(L) x 170(W) x 80(H)
Power Source	6 x 1,5 AA Batteries
Weight	1000g



T89 Compliance / Power Analyser

- Insulation (50,100,250, 500,1000V)
- Loop resistance
- Line impedance
- Global earth
- Phase rotation
- 350 Memory locations
- Power
- Voltage anomalies
- Harmonics
- Power factor
- Single phase power tested individually



Technical Specification

Resistivity Measurement				POWER MEASUREMENT - single phase system (Auto Range)			
Range p	0.60 ÷ 19.99Ωm	20.0 ÷ 199.9Ωm	200 ÷ 1999Ωm	2.00 ÷ 99.99kΩm	100.0 ÷ 125.6Ωm	Active Power	
Resolution	0.01Ωm	0.1Ωm	1Ωm	0.01kΩm	0.1kΩm	Range	0 ÷ 999.9W 1 ÷ 999.9W 1 ÷ 999.9MW 1000 ÷ 9999MW
Accuracy	±(5% reading + 3 digit)					Resolution	0.1W 0.1KW 0.1MW 1MW
Voltage Measurement - Single Phase System (Auto Range)				Reactive Power			
Range	15 ÷ 310V		310 ÷ 600V		Range		
Resolution	0.2V		0.4V		0 ÷ 999.9VAR 1 ÷ 999.9VAR 1 ÷ 999.9VAR 1000 ÷ 9999MVAR		
Input Impedance	300kΩ (phase-neutral)		300kΩ (phase-phase)		Resolution		
Accuracy	± (0.5% + 2 Digits)				0.1VAR 0.1KVAR 0.1MVAR 1MVAR		
Voltage Sag and Surge Detection - Single Phase System (Manual Range)				Apparent Power			
Range	15 ÷ 310V		30 ÷ 600V		Range		
Resolution (Voltage)	0.2V		0.4V		0 ÷ 999.9VA 1 ÷ 999.9kVA 1 ÷ 999.9MVA 1000 ÷ 9999MVA		
Input Impedance	300kΩ (phase-neutral)		300kΩ (phase-phase)		Resolution		
Resolution (time)	10ms (1/2 period)				0.1VA 0.1kVA 0.1MVA 1MVA		
Accuracy (Voltage)	±(1.0% Reading + 2 Digit)				Accuracy		
Accuracy (rif 50Hz)(time)	±(1.0% Reading + 2 Digit)				±(1.0% Reading + 2 Digit)		
Current Measurement - Single Phase Systems (Auto Range)				Active Energy (Classe2 en61036)			
Range	0.005 ÷ 0.26V		30 ÷ 1V		Range		
Resolution	0.1V		0.4V		0 ÷ 999.9Wh 1 ÷ 999.9kWh 1 ÷ 999.9MWh 1000 ÷ 9999MWh		
Accuracy	±(0.5% Reading + 2 Digit)				Resolution		
Input Impedance	200kΩ				0.1Wh 0.1kWh 0.1MWh 1MWh		
Overload Protection	5V				Accuracy		
Cosφ Measurement - Single Phase System				±(1.0% Reading + 2 Digit)			
Cos	0.20 0.50		0.80		Reactive Energy (classes3 IEC1268)		
Accuracy in Degree	0.6° 0.7°		1.0°		Range		
Resolution	0.01 Digit				0 ÷ 999.9VARh 1 ÷ 999.9VARh 1 ÷ 999.9VARh 1000 ÷ 9999VARh		
VOLTAGE and current harmonic MEASUREMENT - single phase system				±(1.0% Reading + 2 Digit)			
Range	DC - 25H		26H - 33H		34H - 49H		ENVIRONMENTAL parameter measurement
Accuracy in Degree	5% + 2 Digits		10% + 2 Digits		15% + 2 Digits		Range
Resolution	0.1V/0.1A						-20° -80°C 0 ÷ 100% UR 0.001Lux ÷ 20.00Lux 0.1Lux ÷ 2000Lux 1Lux ÷ 20kLux
Leakage Current Measurement				Accuracy			
Range	0.5 ÷ 999.9mA						Resolution
Resolution	0.1mA						0.1°C 0.1% UR 0.001 ÷ 0.02 Lux 0.1 ÷ 2 Lux 1 ÷ 20 Lux
				±(2% Reading + 2 Digit)			
				Model Specification			
				Standard Accessories			
				300 - 3000A Flex clamps			
				Test leads			
				Earth test leads & spikes			
				Power cable			
				Power adaptor T0050			
				Software & cable RS232			
				Carry case			
				Instruction manual			
				Calibration certificate ISO9000			
				Dimensions (mm)			
				225(L) x 165(W) x 105(H)			
				Power Source			
				6 x 1,5 AA Batteries			
				Weight			
				1.7kg			

T53 Integrated Instrument for Tests and Analysis on Three-Phase Electrical Plants and Equipment

The instruments permit to measure and record:

- TRMS voltage value
- TRMS current value with clamp adaptors
- Voltage frequency
- Harmonic analysis of voltages and currents up to the 49th harmonic
- Voltage changes beyond the set thresholds (voltage sags and surges) with minimum resolution 10ms
- Active power
- Reactive power
- Apparent power
- Active energy
- Reactive energy
- $\text{Cos}\phi$
- Storing and recording of measured quantities

Recording autonomy higher than one month with 64 quantities and IP =15 minutes

Memory: 2Mb

Functions

- Tests on low voltage electrical installations
- Power quality measurement and analysis
- Network disturbances
- Measurement and analysis of environmental parameters

Meter
Supplied With
Calibration
Certificate



T53 Integrated Instrument for Tests and Analysis on Three-Phase Electrical Plants and Equipment

Model Specification

Standard Accessories	3 x 300 - 3000A Flex clamps Test leads Earth test leads & spikes Power cable T0050 Power adaptor Software & cable RS232 Carry case Instruction manual Calibration certificate ISO9000
Dimensions (mm)	225(L) x 165(W) x 105(H)
Power Source	6 x 1,5 AA Batteries
Weight	1.7kg

Technical Specification

Continuity Test on Protective Conductors		Measurement of Earth Resistance and Ground Resistivity	
DC Open Circuit test voltage	> 4 < 24V	Measurement of earth resistance with 4 auxiliary earth rods	0.01 ~ 1999Ω
Test Current	0.2A	Measurement of ground resistivity with 4 earth rods (Wenner Method)	0.01Ω ~ 199.9kΩ
Basic Accuracy	± 2%	Base Accuracy	±2%
Measuring Range	0.01 ÷ 99.9Ω	Measurement of earth resistance from the plug of a TT electrical plant with voltage drop	
Compensation of test cable resistance			
Insulation Resistance Measurement		Phase Sequence Indication	
Test Voltage	50, 100, 250, 500, 1000VDC	Voltage	100 ~ 400V
Measuring Range	0.01 ÷ 99.99MΩ for 50VDC test voltage 0.01 ÷ 199.99MΩ for 100VDC test voltage 0.01 ÷ 499MΩ for 250VDC test voltage 0.01 ÷ 999MΩ for 500VDC test voltage 0.01 ÷ 1999MΩ for 1000VDC test voltage	Direct Measurement of Leakage Current to the Earth	
Base Accuracy	±2%	With Clamp on meter in the range	0 ~ 1A
		Accuracy	±2%
		Tests on Electrical Installations in Medical Rooms	
		Continuity Test on Protective Conductors	
Test of Tripping Time and Current on RCD's (Type A, Ac, General and Selective)		AC Open circuit test voltage	>4 <12V
Tripping Current	10-30-100-300-500mA	Test Current	10A
Tripping Current Ramp	0.5 ~ 1.4 IΔn for type AC 0.5 ~ 2.0 IΔn for type A	Accuracy	±2%
Tripping Time Measurement	1/2 IΔn - IΔn - 2IΔn - 5IΔn & automatic	Measuring range	0.001 ~ 0.999Ω
Base Accuracy	± 5%	4-Wire Measurement	
		Power Quality Analysis According to EN50160	
Measurement of Line and Fault Loop Impedance with Calculation of Prospected Short Circuit Current and Co-Ordination Test of RCDs in TN Systems		The instruments, suitable for measurement on single-phase and three-phase systems with and without neutral, both for balanced and unbalanced loads, indicate the following rated values:	
Measuring range for line impedance phase to phase to neutral	0.01 ~ 199.9Ω	Measurable Voltage	Up to 600V
Measuring range for loop impedance phase to earth	0.01 ~ 1999Ω	Current with clamp-on meters, output	1V
Indication of measured values of Zs, Isc		Frequency	50 ~ 60Hz
Base Accuracy	±5%	Basic Accuracy (Instrument)	±0.5%
Possibility of effecting measurement of fault loop phase to earth without causing RCD tripping		Basic Accuracy (transient)	±1%
		Measurement Selection	
Test of Environmental Parameters (Optional)		The selection of the quality or type of measurement is made by rotating a switch and pressing selection keys	
Measurement and recording of temperature with an adaptor			
Measurement and recording of humidity with an adaptor		Management Software	
Measurement and recording of air speed with an adaptor		The management software is compatible with Microsoft Windows	
Measurement and recording of lux with an adaptor		Operating system: Windows 95/98, Windows NT and Windows 2000	
Measurement and recording of noise and Leq with an adaptor (dB) Type 1			

TCTRP Analogue Compliance Kit

- This kit is supplied in a sturdy case and foam cut out to secure each instrument



T1800 Insulation Tester



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T1805 Analogue Earth Resistance Tester



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TBM811 Digital Multimeter



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T1825 Loop/PSC Tester



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TEL1TLB ELCB Polarity Socket Tester



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T860 Phase Rotation and Motor Rotation



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TCTDT Digital Compliance Kit

- This kit is supplied in a sturdy case and foam cut out to secure each instrument



T1851 Digital Insulation Tester



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T1820 Digital Earth Resistance Tester



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TBM3030 Digital Clamp Meter



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T1825 Loop/PSC Tester



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TEL1TLB ELCB Polarity Socket Tester



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T887 LCD Phase Rotation



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