

**Transformer
test equipment
easy to use**



Micro ohm meter 200 A

Micro Centurion II

Micro Centurion II is a high precision, fully automatic, microprocessor based micro ohm meter for measuring very low resistance. This system is designed for highly accurate readings on-site with laboratory precision. Extensive filtering and high precision standards are used within the test system. The Micro Centurion II applies a preset pure DC current, selected by the user up to 200 A.

<i>Resistance range</i>	0.00 $\mu\Omega$... 5 Ω
<i>Accuracy</i>	$\pm 0.1\%$ Rdg
<i>Resolution</i>	5 Digits or 0.01 $\mu\Omega$
<i>Current range</i>	10 A ... 200 A DC at 5 V
<i>Operating range</i>	-10°C to 60°C
<i>Weight</i>	14.4 kg (31.5 lbs.)
<i>Input Power</i>	100 to 250 V AC 50/60 Hz



Micro ohm meter 10 A

Micro Junior 2

The Raytech digital micro ohm meter, Micro Junior 2, was designed for maintaining a high degree of accuracy for the measurement of very low resistance. It is battery operated with a lithium-ion battery that allows over 2000 test measurements at 10 A output without recharging. The Micro Junior 2 is one of the most lightweight systems available that comes complete with its own rugged waterproof fieldcase.

<i>Resistance range</i>	0.00 $\mu\Omega$... 400 k Ω
<i>Accuracy</i>	$\pm 0.1\%$ Rdg
<i>Resolution</i>	5 Digits or 0.01 $\mu\Omega$
<i>Current range</i>	1 mA ... 10 A DC
<i>Operating range</i>	-10°C to 60°C
<i>Weight</i>	5.9 kg (13 lbs.)
<i>Power</i>	Lithium-ion battery 16.4 V / 6 Ah



Current Transformer Tester

CT-T1

The CT-T1 is a microprocessor-based Current Transformer Tester that measures CT excitation current, turns ratio, and winding polarity tests, all without having to switch the leads during testing. This CT Tester is precision-made, just like all of the Raytech products. Built to stand up to the harsh environments of field testing, the CT-T1 comes with a 2 year warranty to guarantee years of accurate and reliable usage.

<i>Voltage range</i>	0 ... 2000 V
<i>Current range</i>	0 ... 10 A
<i>Ratio range</i>	0.9 ... 15000
<i>Knee point standards</i>	ASA 10/50, IEEE 30°, IEEE 45°
<i>Operating range</i>	-10°C to 60°C
<i>Weight</i>	20 kg (44 lbs)
<i>Input power</i>	115 / 230 V AC 50/60 Hz auto ranging



Capacitance Power Factor measurement

CAPO 2.5

The CAPO 2.5 is specially designed for fast and easy field measurement, with the well known high precision and quality of Raytech. It is a world unique, line- or **battery-operated** instrument, built into a portable rugged case, making it perfect for field use.

<i>Capacitance range</i>	0 ... 1,3 μF @ 500 V 0 ... 250 nF @ 2.5 kV
<i>Accuracy</i>	0.3% Rdg ± 0.3 pF
<i>Tan δ / PF Accuracy</i>	0.5% Rdg $\pm 1 \times 10^{-4}$
<i>Test voltage</i>	0 ... 2.5 kV
<i>Test current</i>	0 ... 200 mA _{rms}
<i>Test frequency</i>	10 ... 400 Hz
<i>Input Power</i>	88 ... 264 V AC 47 ... 63 Hz
<i>Also displays</i>	inductance, quality factor, output power, power@10 kV



Turns Ratio meter 3 Phase

TR-MARK III R 250V and TR-MARK III 250V

Fully automatic 3 phase measurements. Automatic Vector Group Detection. Rugged and Reliable. A color LCD with back lighting and touch screen increases user comfort. USB interfaces make it easy to store measurements on external storage devices and transfer easily to a personal computer.

<i>Turns Ratio range</i>	0.8 ... 45 000
<i>Accuracy</i>	$\pm 0.06\%$ Rdg
<i>Resolution</i>	5 Digits
<i>Current range</i>	0 ... 1A
<i>Test voltage</i>	1/10/40/100/250 V
<i>Phase angle</i>	± 90 Degree
<i>Operating range</i>	-10°C to 60°C
<i>Input power</i>	100 to 250 VAC 50/60 Hz



Turns Ratio meter extension

T-Rex R and T-Rex

The Raytech three phase voltage system T-Rex is an optional system accessory for 3-phase transformer ratio meter test sets. Fully automatic. Measuring phase relationships other than multiples of 30°. The T-Rex R is the same instrument as the T-Rex but built in a 19" rackmount version.

<i>Turns Ratio range</i>	0.8 ... 4000
<i>Accuracy</i>	$\pm 0.8\%$
<i>Test Voltage 3 phase</i>	24 VAC 50/60 Hz
<i>Operating range</i>	-10°C to 60°C
<i>Input power</i>	100 to 250 VAC 50/60 Hz



Turns Ratio meter 1 Phase

TR-1 and TR-1P

Fully automatic. Battery operated. Reverse polarity test. Continuity test. Pass/fail function. Extremely rugged. Built in printer in the TR-1P model. Can be charged by DC car adapter.

<i>Turns Ratio range</i>	0.8 ... 4000
<i>Accuracy</i>	$\pm 0.08\%$ Rdg
<i>Resolution</i>	5 Digits
<i>Current range</i>	0A ... 1 A
<i>Operating range</i>	-10°C to 60°C
<i>Weight</i>	3.2 kg (7.0 lbs.)
<i>Input power</i>	85 to 264 VAC 47... 63 Hz 12 VDC charging



Standard ratio box for calibration

ST105

The ST105 is a calibration box with standard ratios. It is used for calibration of any turn ratios measurement system. Housed in a rugged, waterproof case, it is very lightweight.

<i>Accuracy</i>	$\pm 0.001\%$ Rdg
<i>Operating range</i>	+10°C to 30°C
<i>Weight</i>	3.8 kg (8.3 lbs.)
<i>Ratio ranges</i>	1:1/10/100/1000/10000
<i>Input power</i>	none



Winding Resistance meter 15 A

WR14R/WR14

Battery and mains operated. Heavy duty protection circuitry. Color touch screen. 2 independent measuring and temperature channels. Internal printer. Fast discharge unit. Internal «Heat run test» software available. USB interfaces. Mounted in a rugged case. Fully automatic demagnetizing circuit.

Resistance range	0.00 $\mu\Omega$ to 100 k Ω
Accuracy	$\pm 0.1\%$ Rdg
Resolution	5 Digits or 0.05 $\mu\Omega$
Current range	25 mA ... 15 A
Inductance range	up to 1500 Henry
Operating range	-10°C to 60°C
Input power	88 to 264 VAC, 47... 63 Hz / 12 V DC charging



Winding Resistance meter 50 A, 2 or 3 channels

WR50-12R/-13R and WR50-12/-13

2 or 3 measuring channels. Heavy duty protection circuitry. Fastest discharge unit on the market. 3 temperature channels. Built in panel printer. Internal «Heat run test» software available. USB interfaces. Simple color touch screen operation. High power DC supply 50A/50V. Fully automatic demagnetizing circuit.

Resistance range	0.00 $\mu\Omega$ to 100 k Ω
Accuracy	$\pm 0.1\%$ Rdg
Resolution	0.05 $\mu\Omega$
Current range	25 mA ... 50 A/50 V DC
Inductance range	0 ... 1500 Henry
Operating range	-10°C to 60°C
Input power	90 to 264 VAC (1.5 kW max.), 47... 63 Hz



Winding Resistance meter 100 A, 2 or 3 channels 19" rackmount version

WR100-12R/-13R

2 or 3 measuring channels. Fastest discharge unit on the market. 3 temperature channels. Heavy duty protection circuitry. Demagnetization circuit. Internal «Heat run test» software available. USB interfaces. Color touch screen.

Resistance range	0.00 $\mu\Omega$ to 100 k Ω
Accuracy	$\pm 0.1\%$ Rdg
Resolution	5 Digits or 0.05 $\mu\Omega$
Current range	25 mA ... 100 A/50VDC
Inductance range	up to 1500 Henry
Operating range	-10°C to 60°C
Input power	90 to 264 VAC (3 kW max.) 47... 63 Hz



Multiplexer for transformer testing

MUX R

Raytech's multiplexer MUX R is designed to drastically reduce cabling time and increase test performance. It is made to be used with Raytech's winding resistance and Turns Ratio meters. Any MUX R configuration can be easily controlled by a winding resistance meter's touch panel or by remote.

Measuring current	up to 100 A
Rack unit	19" Rack 4U
Input power	88 to 264 VAC 47... 63 Hz



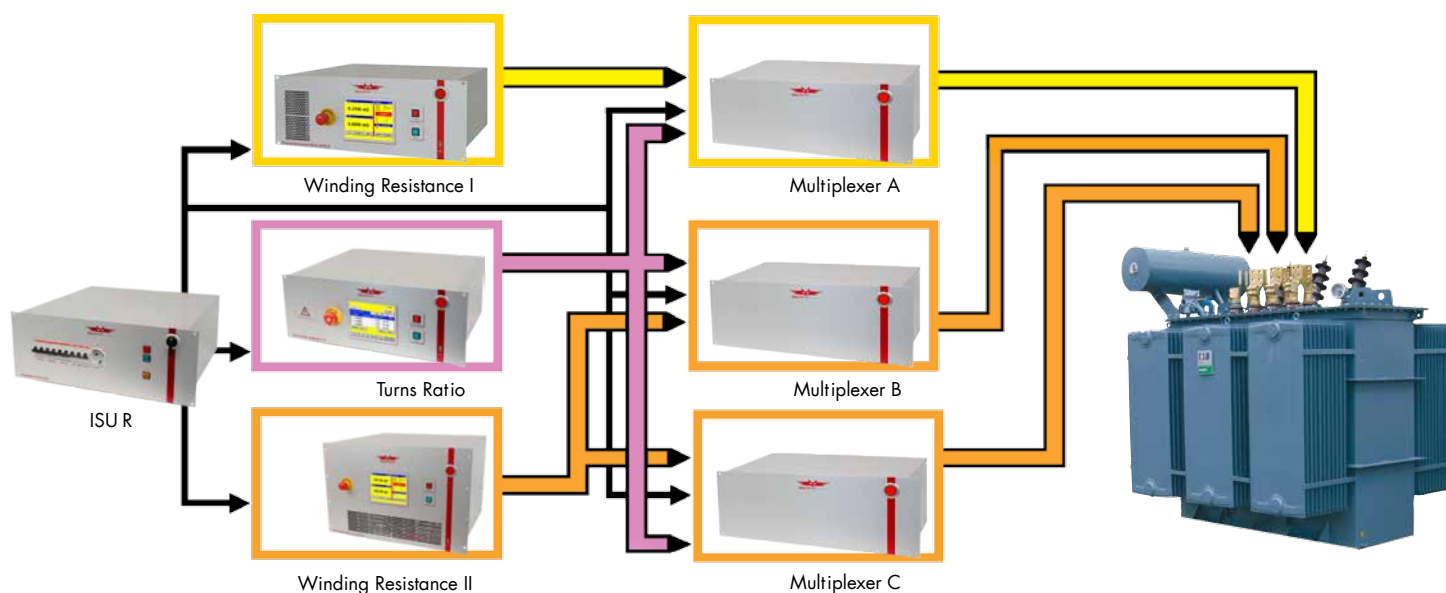
Raytech Automatic Transformer Observation System (ATOS) is designed to drastically reduce measuring time and increase test performance. A modular design based on Raytech instruments offers the possibility to create a custom solution for any application.

Minimizes cabling time. Does all measurements (Winding Resistance and Turns Ratio) with one set of transformer connections. Uses up to three Multiplexers and measures transformers with three winding systems with one cabling sequence. Get your own configuration.



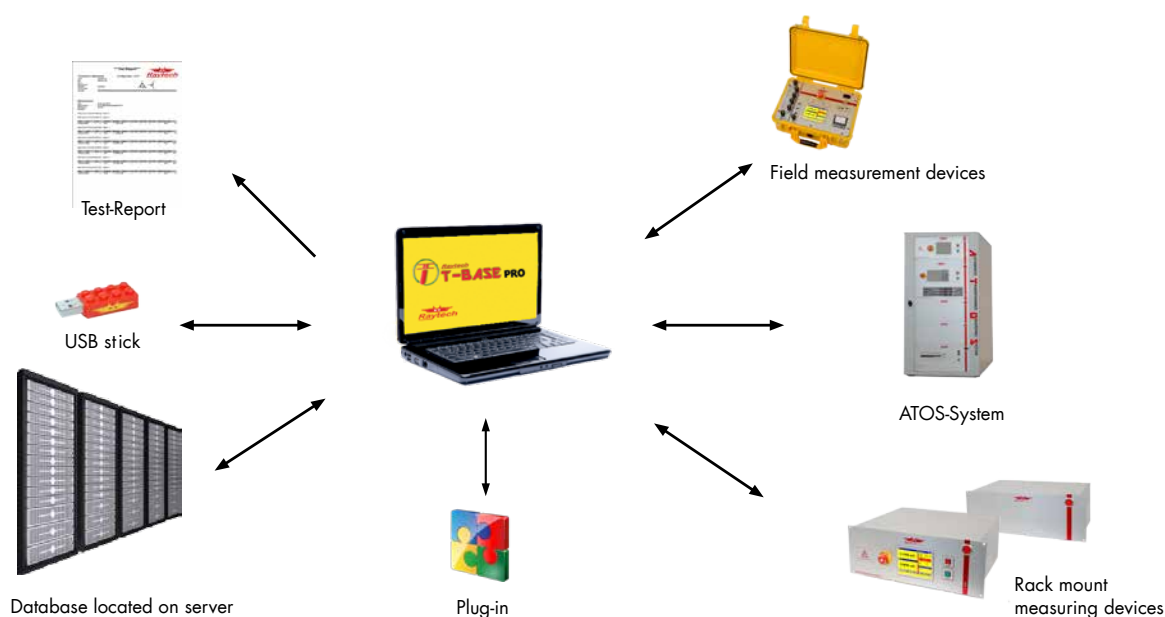
One of many possible ATOS configurations

Whatever the application, there are many possibilities for integration. In this example the yellow outline shows the connection of the primary and the orange outline shows the connection of secondary and tertiary windings.



Software for remote control, data exchange and analysis

T-Base



The T-Base software package is a powerful tool for remote control, data exchange, result analysis and sequence for a completely automated test. It runs on every Windows based PC. A modern graphical user interface makes it easy and comfortable to operate. Any additional features can easily be created with a custom Plug-In.



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Specifications subject to improvement at any time.



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