



# Electrical Test Equipment

A detailed list of fully accredited calibration services for electrical equipment.

Equipment Type	Range	Accredited	In-House	On-Site
<b>AC Power Meter</b>	AC Voltage: 1mV to 330V@45Hz to 100kHz AC Voltage: 330mV to 3,3V@100kHz to 500kHz AC Voltage: 330V to 1000V@45Hz to 10kHz AC Current: 29µA to 330µA@45Hz to 1kHz AC Current: 330µA to 20A@45Hz to 5kHz AC Current: 20A to 120A@45Hz to 1kHz Frequency: 0,01Hz to 2MHz Active Power: 478µW to 50kVA@50/60Hz ÷ PF=0,1/0,5/1,0 Reactive Power: 0var to 49,7kvar@50/60Hz ÷ PF=0,1/0,5/1,0 Apparent Power: 478µVA to 49,7kVA@50/60Hz ÷ PF=0,1/0,5/1,0 Power Factor: 0,1 to 1,0 (ind/cap)	X	X	X
<b>Current Transformer</b>	Conversion Factor Phase Displcement	X	X	X
<b>Energy Meter</b>	Energy: 15,95µWh to 20kWh@50/60Hz ÷ PF=1,0 ÷ t=10min	X	X	X
<b>DC Power Meter</b>	DC Voltage: 1mV to 1000V DC Current: 29µA to 100A DC Power: 95,7µW to 100kW	X	X	X
<b>Voltage Harmonics Meter</b>	Fundamental: 30V to 300V Harmonics: 2nd to 200th, 0,6V to 60V	X	X	X
<b>Current Harmonics Meter</b>	Fundamental: 50mA to 100A Harmonics: 2nd to 200th, 4,5mA to 30A	X	X	X
<b>THD Meter</b>	THD: 0 to 100%	X	X	X
<b>Multimeter (3 1/2)</b>	AC Voltage: 1mV to 330V@45Hz to 100kHz AC Voltage: 330mV to 3,3V@100kHz to 500kHz AC Voltage: 330V to 1000V@45Hz to 10kHz AC Current: 29µA to 330µA@45Hz to 1kHz AC Current: 330µA to 20A@45Hz to 5kHz Frequency: 0,01Hz to 2MHz DC Voltage: 1mV to 1000V DC Current: 29µA to 100A DC Voltage: 1mV to 1000V DC Current: 29µA to 100A DC Resistance 2-Wire/4-Wire: 10mΩ to 330MΩ	X	X	X
<b>Multimeter (4 1/2)</b>	AC Voltage: 1mV to 330V@45Hz to 100kHz AC Voltage: 330mV to 3,3V@100kHz to 500kHz AC Voltage: 330V to 1000V@45Hz to 10kHz AC Current: 29µA to 330µA@45Hz to 1kHz AC Current: 330µA to 20A@45Hz to 5kHz AC Current: 20A to 120A@45Hz to 1kHz Frequency: 0,01Hz to 2MHz DC Voltage: 1mV to 1000V DC Current: 29µA to 100A DC Resistance 2-Wire/4-Wire: 10mΩ to 330MΩ	X	X	X
<b>Multimeter (5 1/2)</b>	AC Voltage: 1mV to 330V@45Hz to 100kHz AC Voltage: 330mV to 3,3V@100kHz to 500kHz AC Voltage: 330V to 1000V@45Hz to 10kHz AC Current: 29µA to 330µA@45Hz to 1kHz AC Current: 330µA to 20A@45Hz to 5kHz AC Current: 20A to 120A@45Hz to 1kHz Frequency: 0,01Hz to 2MHz DC Voltage: 1mV to 1000V DC Current: 29µA to 100A DC Resistance 2-Wire/4-Wire: 10mΩ to 330MΩ	X	X	X

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<b>Ohmmeter</b>	DC Resistance 4-Wire: 10mΩ to 330MΩ	X	X	X
<b>AC VoltageMeter</b>	AC Voltage: 1mV to 330V@45Hz to 100kHz AC Voltage: 330mV to 3,3V@100kHz to 500kHz AC Voltage: 330V to 1000V@45Hz to 10kHz	X	X	X
<b>DC Voltage Meter</b>	DC Voltage: 1mV to 1000V	X	X	X
<b>AC Current Meter</b>	AC Current: 29μA to 330μA@45Hz to 1kHz AC Current: 330μA to 20A@45Hz to 5kHz AC Current: 20A to 120A@45Hz to 1kHz	X	X	X
<b>DC Current Meter</b>	DC Current: 29μA to 100A	X	X	X
<b>AC Built-in Meter (Test Benches)</b>	AC Voltage: 0,6V to 600V@50/60Hz AC Current: 15mA to 100A@50/60Hz Active Power: 375μW to 30kVA@50/60Hz ÷ PF=0,1÷1,0 Reactive Power: 1,6mvar to 29,8kvar@50/60Hz ÷ PF=0,1/0,5/0,9 Apparent Power: 3,75mVA to 30kVA@50/60Hz ÷ PF=0,1/0,5/1,0 Energy Frequency: 1Hz to 499,9kHz@1÷600V Power Factor: 0,1 to 1,0 (ind/cap) Phase displacement: 0° to 360° (Voltage-Voltage/Voltage-Current)	X		X
<b>DC Built-in Meter (Test Benches)</b>	AC Voltage: 33V to 1000V@50/60Hz AC Current: 330mA to 3000A@50/60Hz Active Power: 10,9W to 1,25MW@50/60Hz - PF=0,1/0,5/1,0 Reactive Power: 10,9W to 1,13MW@50/60Hz - sin( )=0,1/0,5/0,9 Apparent Power: 10,9VA to 1,25MVA@50/60Hz - PF=0,1/0,5/1,0 Energy: 1,82Wh to 208kWh Power Factor: 0,1 to 1,0 (ind/cap)	X		X
<b>AC Clamp-on Power Meter</b>	AC Voltage: 33V to 1000V@50/60Hz AC Current: 330mA to 3000A@50/60Hz Active Power: 10,9W to 1,25MW@50/60Hz - PF=0,1/0,5/1,0 Reactive Power: 10,9W to 1,13MW@50/60Hz - sin( )=0,1/0,5/0,9 Apparent Power: 10,9VA to 1,25MVA@50/60Hz - PF=0,1/0,5/1,0 Energy: 1,82Wh to 208kWh Power Factor: 0,1 to 1,0 (ind/cap)	X	X	X
<b>DC Clamp-on Power Meter</b>	DC Voltage: 33V to 1000V DC Current: 330mA to 2500A DC Power: 10,89W to 2,5MW	X	X	X
<b>AC Current Clamp Meter/ Transducers</b>	AC Current: 330mA to 3000A@50/60Hz	X	X	X
<b>DC Current Clamp Meter/ Transducers</b>	DC Current: 330mA to 2500A	X	X	X
<b>Leakage Current Meter (Simpson 228 e Simpson 229-2)</b>	AC Voltage: up to 300V@60Hz AC Current: up to 10mA@60Hz Volt per milliampere indication: @20Hz to 1MHz	X	X	X
<b>Leakage Current Built-in Meter (End Line equipment)</b>	Leakage Current: 0,1mA to 30mA@50/60Hz	X	X	X
<b>Leakage Current Network</b>	Input Impedance:@20Hz to 1MHz Transfer Impedance: @20Hz to 1MHz	X	X	X
<b>AC Resistance/Impedance</b>	Resistance: 30mΩ to 200mΩ@20Hz to 9kHz 200mΩ to 2Ω@20Hz to 100kHz 2Ω to 6Ω@20Hz to 1MHz 6Ω to 5kΩ@20Hz to 3MHz 5kΩ to 200kΩ@20Hz to 1MHz 200kΩ to 5MΩ@20Hz to 100kHz 5MΩ to 9MΩ@20Hz to 9kHz 9MΩ to 20MΩ@20Hz to 10kHz 20MΩ to 50MΩ@100Hz to 10kHz	X	X	X
<b>DC Resistance</b>	Resistance: 10mΩ to 20GΩ	X	X	X

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Equipment Type	Range	Accredited	In-House	On-Site
<b>Capacitance</b>	Capacitance: 1pF to 10nF@1kHz to 100kHz 10nF to 100nF@40Hz to 100kHz 100nF to 10μF@40Hz to 10kHz 10μF to 1mF@40Hz to 1kHz 1mF to 10mF@20Hz to 1kHz 10mF to 100mF@20Hz to 100Hz	X	X	X
<b>Inductance</b>	Inductance: 2μH to 10μH@1kHz to 10kHz 10μH to 30μH@100Hz to 10kHz 30μH to 100μH@50Hz to 10kHz 100μH to 1mH@50Hz to 10kHz 1mH to 1H@40Hz to 10kHz	X	X	X
<b>AC Generator</b>	AC Voltage: 1mV to 200mV@10Hz to 100kHz AC Voltage: 200mV to 200V@10Hz to 1MHz AC Voltage: 200V to 1000V@10Hz to 100kHz AC Voltage: 1000V to 10000V@50/60Hz AC Current: 20μA to 20mA@10Hz to 100kHz AC Current: 20mA to 2A@10Hz to 30kHz AC Current: 2A to 20A@10Hz to 10kHz AC Current: 20A to 1000A@50/60Hz Frequency: 10Hz to 1MHz@up to 1000V Rise Time (Voltage): 1μs to 500ms@5mV to 7kV Rise Time (Current): 1μs to 500ms@1A to 5kA Pulse Duration (Voltage): 1μs to 1s@5mV to 7kV Pulse Duration (Current): 1μs to 1s@1A to 5kA	X	X	X
<b>DC Generator</b>	DC Voltage: 1mV to 10kV DC Current: 20μA to 20A DC Ripple: 1mV to 1000V	X	X	X
<b>AC Power Source</b>	Phase Displacement: 0° to 360° (V/V; V/I; I/I) Phase Shifting (Voltage): 0° to 360° (1μs to 500ms@5mV to 7kV) Phase Shifting (Current): 0° to 360° (1μs to 500ms@1A to 5kA)	X	X	X
<b>Capacitor Discharge Tester</b>	Input Impedance: 0,1 to 10GOhm 3 to 50pF DC voltage: 0 to 400V Phase shifting: 90°	X	X	X
<b>Capacitor Discharge Tester</b>	Time Constant: interpolation on DC values Test Time: 0,1 to 10s		X	X
<b>Single-Phase Power Quality</b>	Voltage: Frequency THD	N/A		X
<b>Three-Phase Power Quality</b>	Voltage: Frequency THD	N/A		X

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