

<b>Laboratory</b>	<b>ZERA India Private Limited, Calibration Laboratory, A-47, GIDC Electronics Estate, Sector-25, Gandhinagar, Gujarat</b>		
<b>Accreditation Standard</b>	<b>ISO/IEC 17025: 2005</b>		
<b>Discipline</b>	<b>Electro-Technical Calibration</b>	<b>Issue Date</b>	<b>20.11.2014</b>
<b>Certificate Number</b>	<b>C-1154</b>	<b>Valid Until</b>	<b>19.11.2016</b>
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<b>Quantity Measured/ Instrument</b>	<b>Range / Frequency</b>	<b>*Calibration Measurement Capability (<math>\pm</math>)</b>	<b>Remarks</b>
<b><u>MEASURE</u></b>			
<b>1. AC VOLTAGE<sup>§</sup></b>	<b>40 to 70 Hz</b> 40 V to 320 Volts	0.010%	Using ZERA COM3003 By Direct Method
<b>2. AC CURRENT<sup>#</sup></b>	<b>40 to 70 Hz</b> 10mA to 120A	0.013% to 0.012%	Using ZERA COM3003 By Direct Method
<b>3. POWER FACTOR<sup>#</sup></b>	-1 PF to +1 PF (0 to 360 Hz)	0.005 PF	Using ZERA COM3003 By Direct Method
<b>4. FREQUENCY<sup>§</sup></b>	40 to 70 Hz	0.033%	Using ZERA COM3003 By Direct Method
<b>5. AC ACTIVE AND REACTIVE <sup>§</sup> Power/Energy, (1/ 3 Phase )</b>	<b>40 to 70 Hz</b> 40V to 320V, 10 mA to120A, Cos $\emptyset$ /Sin $\emptyset$ = 0.1 to 1	0.14% to 0.013%	Using ZERA COM3003 By Comparison Method
<b>6. AC APPARENT POWER/ENERGY<sup>§</sup> (1/ 3 Phase)</b>	<b>40 to 70 Hz</b> 40V to 320V, 10 mA to120A,	0.016% to 0.013%	Using ZERA COM3003 By Comparison Method
<b>7. AC VOLTAGE<sup>*</sup></b>	<b>40 to 70 Hz</b> 40 V to 480 Volts	0.017%	Using MT3000 By Direct Method
<b>8. FREQUENCY<sup>*</sup></b>	15 Hz to 70 Hz	0.033%	Using MT3000 By Direct Method
<b>9. AC ACTIVE AND REACTIVE<sup>*</sup> Power/Energy, (1/ 3 Phase )</b>	<b>40 to 70 Hz</b> 40V – 480V, 10 mA to120A, Cos $\emptyset$ /Sin $\emptyset$ = 0.1 to 1	0.23% to 0.029%	Using MT3000 By Comparison Method
<b>Sangeeta Kunwar Convenor</b>		<b>Avijit Das Program Manager</b>	

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<b>Quantity Measured/ Instrument</b>	<b>Range / Frequency</b>	<b>*Calibration Measurement Capability (<math>\pm</math>)</b>	<b>Remarks</b>
<b>10. AC APPARENT POWER/ENERGY* (1/ 3 Phase)</b>	<b>40 to 70 Hz</b> 40V to 480V, 10 mA to120A,	0.04% to 0.03%	Using MT3000 By Comparison Method
<b><u>SOURCE</u></b>			
<b>1. AC VOLTAGE<sup>\$</sup></b>	<b>40 to 70 Hz</b> 40 V to 320 V	0.014%	Using MTS301 Power Source and COM3003 By Comparison Method
<b>2. AC CURRENT<sup>#</sup></b>	<b>40 to 70 Hz</b> 10mA to 120A	0.017% to 0.016%	Using MTS301 Power Source and COM3003 By Comparison Method
<b>3. POWER FACTOR<sup>#</sup></b>	-1 PF to +1 PF (0 to 360 Hz)	0.005 PF	Using MTS301 Power Source and COM3003 By Comparison Method
<b>4. FREQUENCY<sup>#</sup></b>	40 Hz to 70 Hz	0.033%	Using MTS301 Power Source and COM3003 By Comparison Method
<b>5. AC ACTIVE AND REACTIVE POWER/ENERGY<sup>\$</sup> (1/ 3 Phase )</b>	<b>40 Hz to 70 Hz</b> 40V to 320V, 10 mA to120A, Cos $\emptyset$ /Sin $\emptyset$ = 0.1 to 1	0.14% to 0.013%	Using MTS301 Power Source and COM3003 By Comparison Method
<b>6. AC APPARENT POWER/ENERGY<sup>\$</sup> (1/ 3 Phase)</b>	<b>40 Hz to 70 Hz</b> 40V to 320V, 10 mA to120A,	0.016% to 0.013%	Using MTS301 Power Source and COM3003 By Comparison Method

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<b>Quantity Measured/ Instrument</b>	<b>Range / Frequency</b>	<b>*Calibration Measurement Capability (<math>\pm</math>)</b>	<b>Remarks</b>
<b>7. AC VOLTAGE*</b>	<b>40 Hz to 70 Hz</b> 40 V to 480 Volts	0.019%	Using MTS301 Power Source and COM3003 By Comparison Method
<b>8. AC ACTIVE AND REACTIVE* Power/Energy, (1/ 3 Phase )</b>	<b>40 Hz to 70 Hz</b> 40V to 480V, 10 mA to120A, Cos $\emptyset$ /Sin $\emptyset$ = 0.1 to 1	0.23% to 0.029%	Using MTS301 Power Source and ZERA COM3003 By Comparison Method
<b>9. AC APPARENT POWER/ENERGY* (1/ 3 Phase)</b>	<b>40 Hz to 70 Hz</b> 40V to 480V, 10 mA to120A,	0.04% to 0.03%	Using MTS301 Power Source and ZERA COM3003 By Comparison Method

\* Measurement Capability is expressed as an uncertainty ( $\pm$ ) at a confidence probability of 95%.

\$Only in Permanent Laboratory

\*Only for Site Calibration

# The laboratory is also capable for site calibration however, the uncertainty at site depends on the prevailing actual environmental conditions and master equipment used.

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