

Laboratory Rishabh Testing and Calibration Laboratory, F-31, M.I.D.C., Satpur,
Nashik, Maharashtra

Accreditation Standard ISO/IEC 17025:2005

Discipline Electro-Technical Calibration **Issue Date** 31.05.2015

Certificate Number C-0439 **Valid Until** 30.05.2017

Last Amended on 04.06.2015 **Page** 1 of 3

Quantity Measured/ Instrument	Range / Frequency	*Calibration Measurement Capability (\pm)	Remarks
I. SOURCE			
1. DC VOLTAGE \$	2 mV to 3 V 3 V to 1000 V	0.63 % to 0.01 % 0.01%	Using Calibrator by Direct Method
2. DC CURRENT \$	100 μ A to 30 mA 30 mA to 300 mA 300 mA to 3A 3 A to 11A	0.12 % to 0.06 % 0.06 % to 0.03 % 0.03 % to 0.10 % 0.10 % to 0.09 %	Using Calibrator by Direct Method
3. AC VOLTAGE \$	50 Hz to 1 kHz 30 mV to 300 V 300 V to 1000 V	0.26 % to 0.07 % 0.07 %	Using Calibrator by Direct Method
4. AC CURRENT \$	100 μ A to 3 mA 3 mA to 300 mA 300 mA to 11 A	0.45 % to 0.17 % 0.17 % 0.17 % to 0.19 %	Using Calibrator by Direct Method
5. DC RESISTANCE \$ \$	1 Ω to 3 k Ω 3 k Ω to 30 k Ω 30 k Ω to 300 k Ω 300 k Ω to 3 M Ω 3 M Ω to 30 M Ω	1.28 % to 0.02 % 0.02 % 0.02 % 0.02 % to 0.04 % 0.04 % to 0.12 %	Using Calibrator by Direct Method
6. CAPACITANCE \$	1 kHz 10 nF to 100 μ F	1.75%	Using Calibrator by Direct Method
7. FREQUENCY \$	10 Hz to 30 kHz 30 kHz to 100 kHz	0.06 % to 0.01 % 0.01 % to 0.08 %	Using Calibrator by Direct Method

Ranjith Kumar
Convenor

Avijit Das
Program Manager

Laboratory Rishabh Testing and Calibration Laboratory, F-31, M.I.D.C., Satpur, Nashik, Maharashtra

Accreditation Standard ISO/IEC 17025:2005

Discipline Electro-Technical Calibration **Issue Date** 31.05.2015

Certificate Number C-0439 **Valid Until** 30.05.2017

Last Amended on 04.06.2015 **Page** 2 of 3

Quantity Measured/ Instrument	Range / Frequency	*Calibration Measurement Capability (\pm)	Remarks
8. TEMPERATURE SIMULATION \$			
RTD (Pt-100)	-200 °C to 400 °C	0.11 °C to 0.15 °C	Using Calibrator by Direct Method
	400 °C to 850 °C	0.15 °C to 0.39 °C	
II. MEASURE			
1. DC VOLTAGE \$	1 mV to 1000 V	0.57 % to 0.01%	Using DMM by Direct Method
2. DC CURRENT \$	30 μ A to 0.3 mA	0.49 % to 0.20 %	Using DMM by Direct Method
	0.3 mA to 3 mA	0.20 % to 0.18 %	
	3 mA to 30 mA	0.18 % to 0.26 %	
	30 mA to 10 A	0.26 % to 0.32 %	
3. AC VOLTAGE \$	50 Hz to 1 kHz 10 mV to 1000 V	0.31 % to 0.05 %	Using DMM by Direct Method
4. AC CURRENT \$	50 Hz to 1 kHz		Using DMM by Direct Method
	30 μ A to 3 mA	0.79 % to 0.72 %	
	3 mA to 0.3 A	0.72 % to 0.90 %	
	0.3 A to 10 A	0.90 % to 1.06 %	
5. DC RESISTANCE \$	10 k Ω to 1 M Ω	0.01 %	Using DMM by Direct Method
	1 M Ω to 1 G Ω	0.01 % to 0.53 %	
6. FREQUENCY \$	30 Hz to 300 kHz	0.07 %	Using Calibrator by Direct Method

Ranjith Kumar
Convenor

Avijit Das
Program Manager

Laboratory Rishabh Testing and Calibration Laboratory, F-31, M.I.D.C., Satpur,
 Nashik, Maharashtra
Accreditation Standard ISO/IEC 17025:2005
Discipline Electro-Technical Calibration **Issue Date** 31.05.2015
Certificate Number C-0439 **Valid Until** 30.05.2017
Last Amended on 04.06.2015 **Page** 3 of 3

Quantity Measured/ Instrument	Range / Frequency	*Calibration Measurement Capability (\pm)	Remarks
7. Active Power \$ 1 Φ 0.5 lag-UPF-0.5 Lead	50 Hz 60 V to 320 V 1 A to 16 A 30 W to 15.36 kW	0.17 %	Using Zera RMM by Direct Method
3 Φ 0.5 lag-UPF-0.5 Lead	50 Hz 60 V to 320 V 1 A to 16 A 30 W to 15.36 kW	0.17 %	Using Zera RMM by Direct Method

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

\$Only in Permanent Laboratory

Ranjith Kumar
 Convenor

Avijit Das
 Program Manager