

Laboratory

Sands Centre for Innovation and Testing Private Limited, 15/D-19,
3rd Main Road, OMR, SIPCOT IT Park, Siruseri, Chennai, Tamil Nadu

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number CC-2511

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Validity 03.01.2018 to 02.01.2020

Last Amended on -

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (\pm)	Remarks
<u>ELECTRO-TECHNICAL CALIBRATION</u>				
1.	MEASURE			
1.	AC Voltage [§]	45 Hz to 65 Hz 35 V to 312 V (P-N)	0.025 % to 0.045 %	Using YCS Source Power/Energy Reference Standard SZ-03-AK8 by Direct/ Comparison Method
2.	AC Current [§]	45 Hz to 65 Hz 10 mA to 120 A	0.061 % to 0.025 %	Using YCS Source Power/Energy Reference Standard SZ-03-AK8 by Direct/ Comparison Method
3.	Power Factor [§]	(0.25 – 1 – 0.25) PF Lead/Lag	0.002 PF	Using YCS Source Power/Energy Reference Standard SZ-03-AK8 by Direct/ Comparison Method
4.	Frequency [§]	45 Hz to 65 Hz	0.024 % to 0.032 %	Using YCS Source Power/Energy Reference Standard SZ-03-AK8 by Direct/ Comparison Method
5.	AC Power Active [§] (1 Φ & 3 Φ) Cos Φ = 0.25 to 1PF Lead/Lag	45 Hz to 65 Hz 40 V to 312 V 10 mA to 50 mA 0.2 W to 46.8 W	0.076 % to 0.026 %	Using YCS Source Power/Energy Reference Standard SZ-03-AK8 by Direct/ Comparison Method

Vishal Shukla
Convenor

Avijit Das
Program Director

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Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (\pm)	Remarks
		45 Hz to 65 Hz 40 V to 312 V 50 mA to 120 A 0.5 W to 112.32 kW	0.028 % to 0.030 %	Using YCS Source Power/Energy Reference Standard SZ-03-AK8 by Direct/ Comparison Method
6.	AC Power Reactive ^s (1 Φ & 3 Φ) Sin Φ = 0.25 to 1PF Lead/Lag	45 Hz to 65 Hz 40 V to 312 V 10 mA to 50 mA 0.2 VAr to 46.8 VAr	0.13 % to 0.059 %	Using YCS Source Power/Energy Reference Standard SZ-03-AK8 by Direct/ Comparison Method
		45 Hz to 65 Hz 40 V to 312 V 50 mA to 120 A 0.5 VAr to 112.32 kVAr	0.059 %	Using YCS Source Power/Energy Reference Standard SZ-03-AK8 by Direct/ Comparison Method
7.	AC Power Apparent ^s (1 Φ & 3 Φ)	45 Hz to 65 Hz 40 V to 312 V 10 mA to 50 mA 0.4 VA to 46.8 VA	0.067 % to 0.027 %	Using YCS Source Power/Energy Reference Standard SZ-03-AK8 by Direct/ Comparison Method
		45 Hz to 65 Hz 40 V to 312 V 50 mA to 120 A 2 VA to 112.32 kVA	0.025 % to 0.027 %	Using YCS Source Power/Energy Reference Standard SZ-03-AK8 by Direct/ Comparison Method
8.	AC Energy Active ^s (1 Φ & 3 Φ) Cos Φ = 0.25 to 1PF Lead/Lag	45 Hz to 65 Hz 40 V to 312 V 10 mA to 50 mA 0.2 W to 46.8 W	0.053 % to 0.025 %	Using YCS Source Power/Energy Reference Standard SZ-03-AK8 by Comparison Method

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Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (\pm)	Remarks
		45 Hz to 65 Hz 40 V to 312 V 50 mA to 120 A 0.5 W to 112.32 kW	0.039 % to 0.027 %	Using YCS Source Power/Energy Reference Standard SZ-03-AK8 by Comparison Method
9.	AC Energy Reactive [*] (1 Φ & 3 Φ) Sin Φ = 0.5 to 1PF Lead/Lag	45 Hz to 65 Hz 40 V to 312 V 10 mA to 50 mA 0.4 VAr to 46.8 VAr	0.12 % to 0.058 %	Using YCS Source Power/Energy Reference Standard SZ-03-AK8 by Comparison Method
	Sin Φ = 0.25 to 1PF Lead/Lag	45 Hz to 65 Hz 40 V to 312 V 50 mA to 120 A 0.5 VAr to 112.32 kVAr	0.064 % to 0.059 %	Using YCS Source Power/Energy Reference Standard SZ-03-AK8 by Comparison Method
10.	AC Voltage [*]	45 Hz to 65 Hz 35 V to 300 V (P-N)	0.063%	Using 3 phase Power/Energy Calibrator YC99B by Direct/ Comparison Method
11.	AC Current [*]	45 Hz to 65 Hz 10 mA to 50 mA	0.15 % to 0.073%	Using 3 phase Power/Energy Calibrator YC99B by Direct/ Comparison Method
		45 Hz to 65 Hz 50 mA to 120 A	0.073 % to 0.064 %	Using 3 phase Power/Energy Calibrator YC99B by Direct/ Comparison Method
12.	Frequency [*]	45 Hz to 65 Hz	0.021 % to 0.029 %	Using 3 phase Power/Energy Calibrator YC99B by Direct/ Comparison Method

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13.	AC Power Active* (1 Φ) Cos Φ = 0.5 to 1PF Lead/Lag	45 Hz to 65 Hz 40 V to 300 V 50 mA to 120 A 1 W to 36 kW	0.14 % to 0.13%	Using 3 Phase Power/ Energy Calibrator YC99B by Direct/ Comparison Method
14.	AC Power Active* (3 Φ) Cos Φ = 0.5 to 1PF Lead/Lag	45 Hz to 65 Hz 40 V to 300 V 10 mA to 120 A 1.2 W to 108 kW	0.131 % to 0.063 %	Using 3 Phase Power/ Energy Calibrator YC99B by Direct/ Comparison Method
15.	AC Power Reactive* (1 Φ) Sin Φ = 0.5 to 1PF Lead/Lag	45 Hz to 65 Hz 40 V to 300 V 50 mA to 120 A 1 VAr to 36 kVAr	0.14 % to 0.12 %	Using 3 Phase Power/ Energy Calibrator YC99B by Direct/ Comparison Method
16.	AC Power Reactive* (3 Φ) Sin Φ = 0.5 to 1PF Lead/Lag	45 Hz to 65 Hz 40 V to 300 V 10 mA to 120 A 1.2 VAr to 108 kVAr	0.14 % to 0.085 %	Using 3 Phase Power/ Energy Calibrator YC99B by Direct/ Comparison Method
17.	AC Energy Active* (1 Φ) Cos Φ = 0.5 to 1PF Lead/Lag	45 Hz to 65 Hz 40 V to 300 V 10 mA to 120 A 0.4 W to 36 kW	0.13 % to 0.064 %	Using 3 Phase Power/ Energy Calibrator YC99B by Comparison Method
18.	AC Energy Active* (3 Φ) Cos Φ = 0.5 to 1PF Lead/Lag	45 Hz to 65 Hz 40 V to 300 V 10 mA to 120 A 1.2 W to 108 kW	0.086 % to 0.064 %	Using 3 Phase Power/ Energy Calibrator YC99B by Comparison Method
19.	AC Energy Reactive* (1 Φ) Sin Φ = 0.5 to 1PF Lead/Lag	45 Hz to 65 Hz 40 V to 300 V 10 mA to 120 A 0.4 VAr to 36 kVAr	0.13 % to 0.064 %	Using 3 Phase Power/ Energy Calibrator YC99B by Comparison Method

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20.	AC Energy Reactive* (3 Φ) Sin Φ = 0.5 to 1PF Lead/Lag	45 Hz to 65 Hz 40 V to 300 V 10 mA to 120 A 1.2 VAr to 108 kVAr	0.079 % to 0.064%	Using Comparison Method

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

§ Only in Permanent Laboratory

* Only for Site Calibration

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