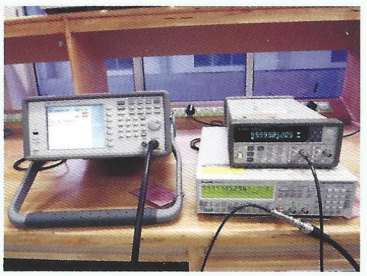
एफ.सी.आर.आई.

FCRI

FLUID CONTROL RESEARCH INSTITUTE

ELECTRO TECHNICAL LABORATORY (ETL)

The state of the art electro technical calibration facilities includes Electronic Voltage reference standards, Standard Resistors, Multifunction Transfer Standard, Multifunction Calibrators, CRO calibrator, Transconductance standards, AC/DC Current Shunts, LF Power Standard, RLC Standard , Cesium and Rubidium Frequency Standard, LF & RF Standard Sources etc. .

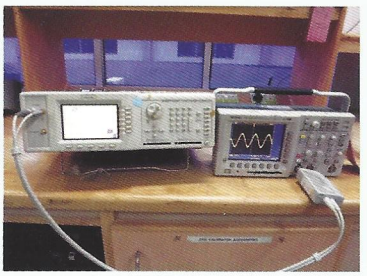


THERMAL CALIBRATION LAB

Thermal Calibration lab has facility for Fixed point calibration of SPRTs, HTPRTs and standard thermocouples probe and comparison calibration of all types of laboratory and industrial grade temperature measuring devices as per ITS-90 .

ITS-90 Fixed Point Calibration (-38.8344°C to 961.78°C)

The state of the art primary calibration facility includes, DC Bridge, Standard resistors, DMM-8½ digit, Multichannel scanner, Quartz sheathed SPRTs & HTSPRTs, TPW cell, Large sealed Fixed point cells(Mercury point to Silver Point) with dedicated maintenance baths and furnaces, PC with dedicated software for the generation of calibration reports wth temperature table.



Comparison Calibration (-70°C to 1200°C)

The comparison calibration facility of thermal lab is well equipped with a range reference SPRTs, PRTs, TCs and dedicated digital temperature indicators. A range of highly stable heat sources like LN2 comparison bath, Stirred alcohol & oil baths, dry block calibrators, thermocouple calibration furnace, Zero point well etc. can cover the temperature range from Boiling point of LN2 to 1200°C.

RH Calibration (10% to 95% & 5°C to 70°C)

The self contained relative humidity generator that measures and controls humidity with high accuracy based on "two pressure " generation principle have a large working volume to accommodate most of the humidity probes, chart recorders, humidity-loggers/transmitters and higrometers commercially available in industry for calibration.

ETL has well established quality system complying with ISO/IEC 17025. The laboratory is accredited by the National Accreditation Board for Testing & Calibration Laboratories (NABL), Department of Science and techniology, Govt. of India. The reference standards maintained in the laboratory are traceable to national standards.

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- State-of-the-art calibration standards are used by highly experienced calibration technicians.
- We provide extensive, accurate and timely calibration services at extremely competitive prices.
- Our Electro Technical & Temperature calibration services can be performed at your site or in our state-of-the-art laboratories.

This laboratory is capable of calibrating industrial and laboratory grade sourcing and measuring instruments for Electrical & Thermal parameters.

Calibration Capability - Source & Measure

ELECTRO TECHNICAL CALIBRATION		TEMPERATURE & RH CALIBRATION	
Parameters	**Range**	**Fixed point method**	**CMC**
DC Voltage	100 uV to 1000 V	-38.8344 C	6.6 m C
DC current with coil	100 μA to 1000A	0.01 C	2.9 m C
Resistance	1 uΩ to10GΩ	29.7646 C	4.2 m C
AC voltage	1 mV to 1000V	156.5985 C	5.4 m C
AC current with coil	1 mA to 1000A	231.928 C	4.9 m C
Frequency	1 Hz to 1.0GHz	419.527 C	6.6 m C
Time	1s to 5400 s	660.323 C	8.2 m C
AC Power, 50Hz , Single phase	1W to 8.8kW(upf)	961.78 C	19.7 m C
Capacitance @ 1kHz	0.19nF to 50mF	COMPARISON CALIBRATION	
Inductance @ 1kHz	100μH to 1H	Boiling Point of LN2	0.07 C
Oscilloscope Calibration	Band width up to 600MHz	-70 C to 300 C	0.020 C
		300 C to 660 C	0.053 C
Temperature Simulator/indicator Thermocouple Types B , C, E, J, K, N, R, S, T	-250°C to 2316°C	600 C to 1200 C	1.3 °C
Pt-100 RTD	-200°C to 800°C	10%-95% RH @ 25 C	0.51% RH
Pt-1000 RTD	-200 to 630°C	5 C to70 C @50% RH	0.12 °C