Accreditation No: LAB 017

Awarded to

Precision Measuring Equipment Laboratory
MRF, PAC Kamra Attock, Pakistan.

The scope of accreditation is in accordance with the standard specifications outlined in the following page(s) of this document. The accredited scope shall be visible and legible in areas such as customer service, sample-receiving section etc. and shall not mislead its users.

The accreditation was first time granted on **28-10-2005** by Pakistan National Accreditation Council.

The laboratory complies with the requirements of **ISO/IEC 17025:2017.**

The accreditation requires regular surveillance, and is valid until **25-02-2024.**

The decision of accreditation made by Pakistan National Accreditation Council implies that the organization has been found to fulfill the requirements for accreditation within the scope.

The organization however, itself is responsible for the results of performed measurements/tests.

PAKISTAN NATIONAL ACCREDITATION COUNCIL

23-11-2023
Date

SD.
Director General

Calibration Laboratory.

Accreditation Scope of Precision Measuring Equipment
Laboratory MRF, PAC Kamra Attock, Pakistan.

Permanent laboratory premises X

Field of measurement:			
Measured quantity	**Range**	***Expanded Uncertainty (±)**	**Technique, Reference Standard, Equipment**
Torque 4 in lbs ~ 600 in lbs 10 ft lbs ~ 600 ft lbs	4 in lbs ~ 100 in lbs	±0.763 in lbs	CP/TW/TM/PMEL/022 Digital Torque Tester Calibrator
	101 in lbs ~ 300 in lbs	±0.77 in lbs	
	301 in lbs ~ 600 in lbs	±0.9 in lbs	
	10 ft lbs ~ 100 ft lbs	±0.68 ft lbs	
	101 ft lbs ~ 300 ft lbs	±0.94 ft lbs	
	301 ft lbs ~ 600 ft lbs	±1.3 ft lbs	
DC Voltage 0.0000000 mV ~ ±1000.0000 V	100 mV	±0.00113 mV	CP/DMM/CM/PMEL/024 Multifunction Calibrator
	1 V	±0.000073 V	
	10 V	±0.000027 V	
	100 V	±0.00056 V	
	1000 V	±0.0055 V	
	-100 mV	±0.00113 mV	
	-1 V	±0.0000073 V	
	-10 V	±0.000027 V	
	-100 V	±0.000056 V	
	-1000 V	±0.0055 V	
DC Current 0.0000 µA ~ ±10.000000 A	100 µA	±0.00274 µA	
	1 mA	±0.0000246 mA	
	10 mA	±0.000280 mA	
	100 mA	±0.00277 mA	
	1 A	±0.0000325 A	
	10 A	±0.000554 A	
	-100 µA	±0.00275 µA	
	-1 mA	±0.0000265 mA	
	-10 mA	±0.000279 mA	
	-100 mA	±0.00277 mA	
	-1 A	±0.0000325 A	
	-10 A	±0.000554 A	

23-11-2023
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SD.
Director

Field of measurement:

Measured quantity	Range	*Expanded Uncertainty (±)	Technique, Reference Standard, Equipment
AC Voltage 100 mV ~ 1000.000 V	100 mV @ 60 Hz	±0.0226 mV	CP/DMM/CM/PMEL/024 Multifunction Calibrator
	1 V@ 60 Hz	±0.000099 V	
	10 V @ 60 Hz	±0.00989 V	
	100 V @ 60 Hz	±0.1131 V	
	1000 V @ 60 Hz	±0.113 V	
	100 mV @ 1 kHz	±0.0226 mV	
	1 V @ 1 kHz	±0.000097 V	
	10 V @ 1 kHz	±0.00930 V	
	100 V @ 1 kHz	±0.1121 V	
	1000 V @ 1 kHz	±0.102 V	
AC Current 9.000 µA ~ 10.0000 A	100 µA @60 Hz	±0.2403 µA	
	1 mA @60 Hz	±0.000400 mA	
	10 mA @60 Hz	±0.00237 mA	
	100 mA @60 Hz	±0.4384 mA	
	1 A @ 60 Hz	±0.000419 A	
	10 A @ 60 Hz	±0.00043 A	
	100 µA @1 kHz	±0.2404 µA	
	1 mA @ 1kHz	±0.001738 mA	
	10 mA @ 1kHz	±0.31000 mA	
	100 mA @ 1kHz	±0.4384 mA	
	1 A @ 1 kHz	±0.000415 A	
	10 A @ 1kHz	±0.00043 A	
Resistance 0.0000000 Ω ~ 100.0000 MΩ	1.0000000 Ω	±0.0000132 Ω	
	10.000000 Ω	±0.000170 Ω	
	100.00000 Ω	±0.00139 Ω	
	1.0000000 kΩ	±0.0049999 kΩ	
	10.000000 kΩ	±0.007071 kΩ	
	190.00000 kΩ	±0.00500 kΩ	
	1.0000000 MΩ	±0.0000253 MΩ	
	19.000000 MΩ	±0.000399 MΩ	
	100.00000 MΩ	±0.00320 MΩ	

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* **Expanded Uncertainty:**

- Expanded Uncertainty is the measurement uncertainty at a coverage probability of 95 %, which usually requires the use of a coverage factor of k = 2. This measurement uncertainty is a value for which the laboratory has been accredited using the procedure that was the subject of assessment. In certificates issued under its accreditation scope an accredited laboratory is not permitted to quote an uncertainty that is smaller than the published uncertainty for respective ranges as given above.

23-11-2023
Date

SD.
Director