مركز الإمارات العالمي للاعتماد
Emirates International Accreditation Centre

ACCREDITATION CERTIFICATE

LB-CAL-054

Emirates International Accreditation Centre

has accredited

DEWA METROLOGY LABORATORY

Umm-Hurair, Near Karama General Post Office

Dubai-United Arab Emirates

In accordance with the requirements of

ISO/IEC 17025:2017

General requirements for the competence of testing and calibration laboratories

to undertake the calibration in the attached accreditation scope

This Accreditation is invalid without the attached accreditation scope and shall remain in force within the validity period printed below, subject to continuing compliance with the requirements of the accreditation criteria.

Validity: 08-09-2020 to 09-08-2023

Initial Accreditation Date: 10/08/2017

ilac-MRA

مركز الإمارات العالمي للاعتماد
Emirates International Accreditation Centre

CHIEF EXECUTIVE OFFICER
APPROVAL

Accreditation Scope

LB-CAL-054

DEWA Metrology Laboratory

Umm-Hurair, Near Karama General Post Office

Dubai-United Arab Emirates

Date: 08-09-2020 **Valid to: 09-08-2023**

Accreditation History			
Scope	**Issue No.**	**Details**	**Date**
Electrical	3	Renewal accreditation from EIAC	08-09-2020
Electrical	2	Extension in scope and first issuance under the name of EIAC (which was formerly known as DAC)	21/10/2019

Accreditation Scope

Electrical Calibration

LB-CAL-054

DEWA Metrology Laboratory

Umm-Hurair, Near Karama General Post Office

Dubai-nited Arab Emirates

Issue no.: 03 **Date: 08-09-2020** **Valid to: 09-08-2023**

Calibration Field/ Measuring Quality	Calibration Method	Range and Specification	Calibration Measurement Capability (CMC)*	Location
DC Voltage	MMulti Product Calibrator (Fluke-5520A) Calibration Procedure # DP/DAM/W&AR(ML)/SOP 12 *U: Measured Voltage value*	Up to 329.9999 mV	16×10^{-6} *U* + 0.79 uV	DEWA Metrology Laboratory
		< 330 mV to 3.3 V	8.4×10^{-6} *U* + 1.9 uV	
		< 3.3 V to 33 V	9.2×10^{-6} *U* + 19 uV	
		< 33 V to 330 V	14×10^{-6} *U* + 0.13 mV	
		< 330 V to 1000 V	14×10^{-6} *U* + 1.4 mV	
AC Voltage	Multi Product Calibrator (Fluke-5520A) Calibration Procedure # DP/DAM/W&AR(ML)/SOP 12 *U: Measured Voltage value*	**Up to 33 mV**		
		45 Hz to 10 kHz	0.11×10^{-3} *U* + 4.8 uV	
		< 10 kHz to 20 kHz	0.15×10^{-3} *U* + 4.8 uV	
		< 20 kHz to 50 kHz	0.77×10^{-3} *U* + 4.8 uV	
		< 33 mV to 330 mV		
		45 Hz to 10 kHz	0.11×10^{-3} *U* + 6.3 uV	
		< 10 kHz to 20 kHz	0.12×10^{-3} *U* + 6.3 uV	
		< 20 kHz to 50 kHz	0.27×10^{-3} *U* + 6.3 uV	
		<0.33 V to 3.3 V		
		45 Hz to 10 kHz	0.12×10^{-3} *U* + 47 uV	
		< 10 kHz to 20 kHz	0.15×10^{-3} *U* + 47 uV	
		< 20 kHz to 50 kHz	0.23×10^{-3} *U* + 39 uV	

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AC Voltage	Multi Product Calibrator (Fluke-5520A) Calibration Procedure # DP/DAM/W&AR(ML)/SOP 12 *U: Measured Voltage value*	**< 3.3 V to 33 V**		DEWA Metrology Laboratory
		45 Hz to 10 kHz	0.12×10^{-3} *U* + 0.47 mV	
		< 10 kHz to 20 kHz	0.19×10^{-3} *U* + 0.47 mV	
		< 20 kHz to 50 kHz	0.27×10^{-3} *U* + 0.47 mV	
		< 33 V to 330 V		
		45 Hz to 10 kHz	0.16×10^{-3} *U* + 4.7 mV	
		< 10 kHz to 20 kHz	0.19×10^{-3} *U* + 4.7 mV	
		< 20 kHz to 50 kHz	0.23×10^{-3} *U* + 4.7 mV	
		< 330 V to 1020 V		
		45 Hz to 1 kHz	0.23×10^{-3} *U* + 8.8 mV	
		< 1 kHz to 5 kHz	0.19×10^{-3} *U* + 9.0 mV	
		< 5 kHz to 10 kHz	0.23×10^{-3} *U* + 8.8 mV	
DC Current	Multi Product Calibrator (Fluke-5520A) Calibration Procedure # DP/DAM/W&AR(ML)/SOP 12 *I: Measured Current value*	Up to 330 uA	0.12×10^{-3} / + 0.02 uA	
		< 0.33 mA to 3.3 mA	1.2×10^{-6} / + 12 uA	
		< 3.3 mA to 33 mA	1.1×10^{-6} / + 0.12 mA	
		< 33 mA to 330 mA	1.1×10^{-6} / + 1.2 mA	
		< 330 mA to 1.1 A	1.9×10^{-6} / + 12 mA	

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DC Current	Multi Product Calibrator (Fluke-5520A) Calibration Procedure # DP/DAM/W&AR(ML)/SOP 12 *I: Measured Current value*	< 1.1 A to 3 A	16×10^{-6} / + 12 mA	DEWA Metrology Laboratory
		< 3 A to 11 A	10×10^{-6} / + 0.12 A	
		< 11 A to 20 A	85×10^{-6} / + 0.12 A	
AC Current	Multi Product Calibrator (Fluke-5520A) Calibration Procedure # DP/DAM/W&AR(ML)/SOP 12 *I: Measured Current value*	**29 uA to 330 uA**		DEWA Metrology Laboratory
		45 Hz to 1 KHz	0.97×10^{-3} / + 0.08 uA	
		1 KHz to 5 KHz	2.3×10^{-3} / + 0.12 uA	
		5 KHz to 10 KHz	6.2×10^{-3} / + 0.16 uA	
		< 0.33 mA to 3.3 mA		
		45 Hz to 1 KHz	0.78×10^{-3} / + 0.12 uA	
		1 KHz to 5 KHz	1.6×10^{-3} / + 0.16 uA	
		5 KHz to 10 KHz	3.9×10^{-3} / + 0.23 uA	
		< 3.3 mA to 33 mA		
		45 Hz to 1 KHz	0.31×10^{-3} / + 1.6 uA	
		1 KHz to 5 KHz	0.62×10^{-3} / + 1.6 uA	
		5 KHz to 10 KHz	1.6×10^{-3} / + 2.3 uA	

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Calibration Field/ Measuring Quality	Calibration Method	Range and Specification	Calibration Measurement Capability (CMC)*	Location
AC Current	Multi Product Calibrator (Fluke-5520A) Calibration Procedure # DP/DAM/W&AR(ML)/SOP 12 *I: Measured Current value*	**< 3.3 mA to 33 mA**		DEWA Metrology Laboratory
		45 Hz to 1 KHz	0.31×10^{-3} / + 16 uA	
		< 33 mA to 330 mA		
		1 KHz to 5 KHz	0.78×10^{-3} / + 39 uA	
		5 KHz to 10 KHz	1.6×10^{-3} / + 78 uA	
		< 0.33 A to 1.1 A		
		45 Hz to 1 KHz	0.39×10^{-3} / + 78 uA	
		1 KHz to 5 KHz	4.7×10^{-3} / + 0.78 mA	
		5 KHz to 10 KHz	19×10^{-3} / + 3.9 mA	
		< 1.1 A to 3 A		
		45 Hz to 1 KHz	0.47×10^{-3} / + 78 uA	
		1 KHz to 5 KHz	4.7×10^{-3} / + 0.78 mA	
		5 KHz to 10 KHz	19×10^{-3} / + 3.9 mA	
		< 3 A to 11 A		
		45 Hz to 100 Hz	0.47×10^{-3} / + 1.6 mA	
		100 Hz to 1 KHz	0.78×10^{-3} / + 1.6 mA	
		1 KHz to 5 KHz	23×10^{-3} / + 1.6 mA	

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Calibration Field/ Measuring Quality	Calibration Method	Range and Specification	Calibration Measurement Capability (CMC)*	Location
AC Current	Multi Product Calibrator (Fluke-5520A) Calibration Procedure # DP/DAM/W&AR(ML)/SOP 12 *I: Measured Current value*	**< 11 A to 20.5 A**		DEWA Metrology Laboratory
		45 Hz to 100 Hz	0.93×10^{-3} / + 3.9 mA	
		100 Hz to 1 KHz	1.2×10^{-3} / + 3.9 mA	
		1 KHz to 5 KHz	23×10^{-3} / + 3.9 mA	
Temperature Simulation	1- Multi Product Calibrator (Fluke-5520A, TC-K type) Calibration Procedure # DP/DAM/W&AR(ML)/SOP 12 2- Multi Product Calibrator (Fluke-5520A, TC-J type) Calibration Procedure # DP/DAM/W&AR(ML)/SOP 12	-200 °C to -100 °C	0.33 °C	
		-100 °C to -25 °C	0.18 °C	
		-25 °C to 120 °C	0.16 °C	
		120 °C to 1000 °C	0.26 °C	
		1000 °C to 1372 °C	0.4 °C	
		-200 °C to -100 °C	0.27 °C	
		-100 °C to -25 °C	0.16 °C	
		-25 °C to 120 °C	0.14 °C	
		120 °C to 1000 °C	0.17 °C	
		1000 °C to 1372 °C	0.23 °C	

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Capacitance	Multi Product Calibrator (Fluke-5520A) Calibration Procedure # DP/DAM/W&AR(ML)/SOP 12 *C: Measured Capacitance value*	1.1 nF to 3.3 nF	$3.9\times10^{-3}\ C + 7.8$ pF	DEWA Metrology Laboratory
		< 3.3 nF to 11 nF	$1.9\times10^{-3}\ C + 78$ pF	
		< 11 nF to 33 nF	$1.9\times10^{-3}\ C + 78$ pF	
		< 33 nF to 110 nF	$1.9\times10^{-3}\ C + 78$ pF	
		< 110 nF to 330 nF	$1.9\times10^{-3}\ C + 0.23$ nF	
		< 0.33 uF to 1.1 uF	$1.9\times10^{-3}\ C + 0.78$ nF	
		< 1.1 uF to 3.3 uF	$1.9\times10^{-3}\ C + 2.3$ nF	
		< 3.3 uF to 11 uF	$1.9\times10^{-3}\ C + 7.8$ nF	
		< 11 uF to 110 uF	$3.5\times10^{-3}\ C + 78$ nF	
		< 110 uF to 330 uF	$3.5\times10^{-3}\ C + 0.23$ uF	
		< 0.33 mF to 1.1 mF	$3.5\times10^{-3}\ C + 0.78$ uF	
		< 1.1 mF to 3.3 mF	$3.5\times10^{-3}\ C + 2.3$ uF	
		< 3.3 mF to 11 mF	$3.5\times10^{-3}\ C + 7.8$ uF	
		< 11 mF to 33 mF	$5.8\times10^{-3}\ C + 23$ uF	
		< 33 mF to 110 mF	$8.5\times10^{-3}\ C + 78$ uF	

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Calibration Field/ Measuring Quality	Calibration Method	Range and Specification	Calibration Measurement Capability (CMC)*	Location
Resistance	Multi Product Calibrator (Fluke-5520A) Calibration Procedure # DP/DAM/W&AR(ML)/SOP 12 *R:* Measured Resistance value	0 to 11 Ω	$31\times10^{-6}\ R$ + 7.8 mΩ	DEWA Metrology Laboratory
		< 11 Ω to 33 Ω	$23\times10^{-6}\ R$ + 12 mΩ	
		< 33 Ω to 110 Ω	$22\times10^{-6}\ R$ + 12 mΩ	
		< 110 Ω to 330 Ω	$22\times10^{-6}\ R$ + 16 mΩ	
		< 330 Ω to 1.1 kΩ	$22\times10^{-6}\ R$ + 16 mΩ	
		< 1.1 kΩ to 3.3 kΩ	$22\times10^{-6}\ R$ + 0.16 Ω	
		< 3.3 kΩ to 11 kΩ	$22\times10^{-6}\ R$ + 78 mΩ	
		< 11 kΩ to 33 kΩ	$22\times10^{-6}\ R$ + 0.78 Ω	
		< 33 kΩ to 110 kΩ	$22\times10^{-6}\ R$ + 0.78 Ω	
		< 110 kΩ to 330 kΩ	$25\times10^{-6}\ R$ + 7.8 Ω	
		< 330 kΩ to 1.1 MΩ	$25\times10^{-6}\ R$ + 7.8 Ω	
		< 1.1 MΩ to 3.3 MΩ	$47\times10^{-6}\ R$ + 0.12 kΩ	
		< 3.3 MΩ to 11 MΩ	$0.10\times10^{-3}\ R$ + 0.19 kΩ	
		< 11 MΩ to 33 MΩ	$0.19\times10^{-3}\ R$ + 1.9 kΩ	

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Resistance	Multi Product Calibrator (Fluke-5520A) Calibration Procedure # DP/DAM/W&AR(ML)/SOP 12 *R: Measured Resistance value*	< 33 MΩ to 110 MΩ	$0.39\times10^{-3}\ R$ + 2.3 kΩ	DEWA Metrology Laboratory
		< 110 MΩ to 330 MΩ	$2.3\times10^{-3}\ R$ + 78 kΩ	
		< 330 MΩ to 1100 MΩ	$9.5\times10^{-3}\ R$ + 63 kΩ	
Frequency	Multi Product Calibrator (Fluke-5520A) Calibration Procedure # DP/DAM/W&AR(ML)/SOP 12 *f: Measured Frequency value*	0.01 Hz to 120 Hz	$0.02\times10^{-6}\ f$ + 12 mHz	DEWA Metrology Laboratory
		< 120.0 Hz to 1.2 kHz	$0.02\times10^{-6}\ f$ + 0.12 Hz	
		< 1.2 kHz to 12 kHz	$0.02\times10^{-6}\ f$ + 1.2 Hz	
		< 12 kHz to 120 kHz	$0.02\times10^{-6}\ f$ + 12 Hz	
		< 120 kHz to 1200 kHz	$0.02\times10^{-6}\ f$ + 0.12 kHz	
		< 1.2 MHz to 2 MHz	$5.2\times10^{-9}\ f$ + 1.2 kHz	
DC Current	Multi Product Calibrator Fluke-5522A & Current Coil Fluke-5500A/Coil Calibration Procedure # DP/DAM/W&AR(ML)/SOP 12 *I: Measured Current value*	10 A to 16.5 A	5.0×10^{-3} / + 20 mA	DEWA Metrology Laboratory
		16.5 A to 55 A	5.0×10^{-3} / + 0.14 A	
		55 A to 150 A	5.0×10^{-3} / + 0.14 A	
		150 A to 550 A	5.0×10^{-3} / + 0.50 A	
		550 A to 1000 A	5.0×10^{-3} / + 0.50 A	

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AC Current	Multi Product Calibrator Fluke-5522A & Current Coil Fluke-5500A/Coil Calibration Procedure # DP/DAM/W&AR(ML)/SOP 12 (/ = Measured Current value)	10 A to 16.5 A	5.6×10^{-3} / + 30 mA	DEWA Metrology Laboratory
		(45 Hz to 65 Hz)		
		16.5 A to 150 A	5.6×10^{-3} / + 0.25 A	
		(45 Hz to 65 Hz)		
		150 A to 1000 A	5.6×10^{-3} / + 0.9 A	
		(45 Hz to 65 Hz)		

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