CERTIFICATE OF ACCREDITATION

In terms of section 22(2) (b) of the Accreditation for Conformity Assessment, Calibration and Good Laboratory Practice Act, 2006 (Act 19 of 2006), read with sections 23(1), (2) and (3) of the said Act, I hereby certify that:-

MECALC (PTY) LTD

Co. Reg. No.: 1984/009159/07

CALIBRATION LABORATORY

Accreditation Number: **176**

is a South African National Accreditation System accredited Calibration laboratory provided that all SANAS conditions and requirements are complied with

This certificate is valid as per the scope as stated in the accompanying scope of accreditation, Annexure "A", bearing the above accreditation number for

DC LOW FREQUENCY METROLOGY

The facility is accredited in accordance with the recognised International Standard

ISO/IEC 17025:2017

The accreditation demonstrates technical competency for a defined scope and the operation of a laboratory quality management system

While this certificate remains valid, the Accredited Facility named above is authorised to use the relevant SANAS accreditation symbol to issue facility reports and/or certificates

_____

Mr R Josias
Chief Executive Officer

Effective Date: 23 September 2019
Certificate Expires: 08 February 2023

ANNEXURE A

SCOPE OF ACCREDITATION

DC LOW FREQUENCY METROLOGY

Accreditation Number: 176

Permanent Address of Laboratory:
Mecalc (Pty) Ltd
101 Witch-Hazel Avenue
Highveld Techno Park
Centurion
0169

Postal Address:
P O Box 7958
Centurion
0046

Tel: (012) 682-9000
Fax: (012) 682-9050
E-mail: calibration@mecalc.com
jengelbrecht@mecalc.com

Technical Signatories: Mr J Engelbrecht

Nominated Representative: Mr J Engelbrecht

Issue No.: 04
Date of Issue: 15 May 2021
Expiry Date: 08 February 2023

ITEM	MEASURED QUANTITY OR TYPE OF GAUGE OR INSTRUMENT AND RANGE OF MEASURED QUANTITY	NOMINAL FREQUENCY	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±)	METHOD / PROCEDURE
1	**DC Voltage (up to 1 100 V)**			
1.2	**DC Voltage meters**			
1.2.1	**Very low values (≥ 1 mV) Micro Voltmeter, nano voltmeters**			
	0 mV	DC	70 nV	Direct comparison with a DC voltage source or multifunction calibrator or short.
1.2.2	**Intermediate values (> 1mV to 1100V)**			
	100 mV to 1 V 1 V to 10 V 10 V to 100 V 100 V to 1 000 V	DC	$1{,}6 \cdot 10^{-5} \cdot U$ $9{,}0 \cdot 10^{-6} \cdot U$ $1{,}1 \cdot 10^{-5} \cdot U$ $1{,}1 \cdot 10^{-5} \cdot U$	Direct comparison with a DC voltage source or multifunction calibrator.
5	**AV Voltage (up to the MHz range)**			
5.2	**AC Voltage up to 1 100 V**			
5.2.2	**Meter AC Voltmeter**			
	100 mV to 1 V 1 V to 10 V 10 V to 100 V	1 kHz	$2{,}0 \cdot 10^{-4} \cdot U$ $1{,}9 \cdot 10^{-4} \cdot U$ $2{,}2 \cdot 10^{-4} \cdot U$	Direct Comparison with an AC voltage source or multifunction calibrator.
17.1	**Frequency meter (2.3.2)**			
	0.01 Hz to 2 MHz	10 Hz to 100 kHz	$3 \cdot 10^{-5} \cdot f$	Direct measurement of frequency source.
18	On-site calibration for all items above.			

Original Date of Accreditation: 09 February 2018

The CMC, expressed as an expanded uncertainty of measurement, is stated as the standard uncertainty of measurement multiplied by a coverage factor $k = 2$, corresponding to a confidence level of approximately 95%

ISSUED BY THE SOUTH AFRICAN NATIONAL ACCREDITATION SYSTEM

Accreditation Manager