



# Acumen Measurements & Consultancy Pvt. Ltd.

(Calibration Division)

## CALIBRATION CERTIFICATE

Format No.:7.8F-01

Page 1 of 1

<b>CUSTOMER NAME &amp; ADDRESS:-</b>	<b>Certificate No.</b>	: AMCL/230635/02
M/s. SS Power System Plot No. 271, Udyog Kendra-II, Ecotech-III, Greater Noida (U.P.) 201306 INDIA	<b>Service Request Card No.</b>	: 230635
	<b>SRC/ Receipt Date</b>	: 14-09-2023
	<b>Date of Calibration</b>	: 14-09-2023
	<b>Sug. Cal. Due Date</b>	: 13-09-2024
	<b>Issue Date</b>	: 14-09-2023

### ITEM'S DESCRIPTION & IDENTIFICATION

<b>Instrument Name</b>	: MEASURING TAPE	<b>Range / Size</b>	: 0 to 5000 mm
<b>Make</b>	: INdi-19	<b>Least Count</b>	: 1 mm
<b>Model No.</b>	: N/A	<b>Visual Inspection</b>	: OK
<b>Serial No.</b>	: N/A	<b>Location</b>	: N/A
<b>Party ID Mark</b>	: MT-01		

<b>ENVIRONMENTAL CONDITIONS</b>	<b>Calibration Procedure</b>	: MCP-47
Temperature : $(20 \pm 2)^\circ\text{C}$	<b>Reference Standard</b>	: IS 1269 (Part 2): 1997
Relative Humidity : $(50 \pm 10)\%$	<b>Calibration Perfomed at</b>	: Laboratory

<b>MAJOR EQUIPMENT USED</b>	<b>Ident. No.</b>	<b>Traceability Certificate No.</b>	<b>Valid upto</b>
Measuring Scale & Tape Calibrator	118	TI/F/MSTC/001/22 (Tanson)	16-06-24

<b>CALIBRATION RESULT</b>	<b>*DUC Reading (in mm)</b>	<b>Standard Reading (in mm)</b>	<b>Error (in mm)</b>
	100	100.032	-0.032
	500	500.096	-0.096
	1000	1000.128	-0.128
	2000	2000.219	-0.219
	3000	3000.364	-0.364
	5000	5000.493	-0.493

### REMARKS :

1. DUC = Device Under Calibration, UUC=Unit Under Calibration  
 2. Expanded uncertainty of measurement at approx 95% confidence level for coverage factor( $k$ )=2 is  $\pm 55.0 \mu\text{m}$   
 3. Suggested next due date of calibration is given as requested by customer.  
 4. DUC has been calibrated against lab standards are traceable to national & international standards.  
 5. This result of calibration refer to only to the particular item submitted for calibration.  
 6. The result reported in this certificate are valid at the time of and under the stated conditions of Measurement.  
 7. This certificate shall not be reproduced, except in full, unless a written permission for the publication of an approved abstract has been obtained from the CEO, Acumen Measurements & Consultancy Pvt. Ltd., New Delhi.

	<b>Anjali Devi</b> (Calibrated By)	<b>Issued &amp; Authorised By</b>

\*End Of Report\*



# TANSON INSTRUMENT

(ULTRA-HIGH PRECISION MEASUREMENT & CALIBRATION)



CC-2660

## Calibration Certificate

Certificate No. :	TI/F/MSTC/001/22	Page No. :	1 of 3
ULR NO.:	CC266022000001129F	Issue Date:	17/06/2022
Calibration Date :	17/06/2022	Next Due Date :	16/06/2024

1. Calibrated for : M/s. Acumen Measurements & Consultancy Pvt. Ltd.  
D-10/6, Okhla Industrial Area,  
Phase-1, New Delhi – 110020;

2. Type of Machine : Measuring Scale & Tape Calibrator

### 3. Description and Identification of Equipment:

Size	Least Count	Id. No.	Make	Serial No.
0-1000 mm	0.001 mm	MMI/25	OCTAGON	118

4. Calibration Procedure : Comparison Method (TI/WI/32)

5. Standard Equipment Detail : Accuracy-0.7 p.p.m, Least count-1nm  
Range - 8 m, Make-Renishaw

6. Uncertainty of Master Angular Uncertainty - 0.01 Sec. and  
Linear Uncertainty - 0.1 $\mu$ m/m.

### 7. Standard/Equipment are traceable to National Standard.

Equipment/Standard	Sr. No.	Certificate No.	Valid up to
Laser head Make- Renishaw Model-XL-80	H43179	20100740/D1.02/C-093	21/10/2022
Standard Material Temperature Sensor Make- Renishaw, Model- XC-80	6Q0791	TSC/21-22/5325-1	28/07/2022
Standard Air Temperature Sensor Make- Renishaw, Model-XC-80	6P8063	TSC/21-22/5325-2	28/07/2022

8. Uncertainty of Measurement :  $\pm 1.5 \mu\text{m}$  upto 1000 mm.

The reported Uncertainty is at coverage probability of approximately 95% for a normal distribution. (k=2)

Calibrated By  
  
Sunit Tanwar



Approved By  
  
MQ/TM  
(Hitesh Tanwar)

This certificate pertains to the items calibrated by TANSON INSTRUMENT. No report should be reproduced without prior permission. The results produced in this certificate are valid under stated condition at the time of calibration.



# Acumen Measurements & Consultancy Pvt. Ltd.

(Calibration Division)



## CALIBRATION CERTIFICATE

Format No.:7.8F-01

Page 1 of 1

<b>ULR No. : CC236423000001381F</b>	<b>Certificate No.</b> : AMCL/230635/01
<b>CUSTOMER NAME &amp; ADDRESS:-</b>	<b>Service Request Card No.</b> : 230635
M/s. SS Power System Plot No. 271, Udyog Kendra-II, Ecotech-III, Greater Noida (U.P.) 201306 INDIA	<b>SRC/ Receipt Date</b> : 14-09-2023
	<b>Date of Calibration</b> : 14-09-2023
	<b>Sug. Cal. Due Date</b> : 13-09-2024
	<b>Issue Date</b> : 14-09-2023

### ITEM'S DESCRIPTION & IDENTIFICATION

<b>Instrument Name</b> : DIGITAL CALIPER	<b>Range / Size</b> : 0-150 mm
<b>Make</b> : Cobra	<b>Least Count</b> : 0.01 mm
<b>Model No.</b> : N/A	<b>Visual Inspection</b> : OK
<b>Serial No.</b> : N/A	<b>Location</b> : N/A
<b>Party ID Mark</b> : DVC-01	

<b>ENVIRONMENTAL CONDITIONS</b>	<b>Calibration Procedure</b> : MCP-02
Temperature : $(20 \pm 2)^\circ\text{C}$	<b>Reference Standard</b> : IS: 16491 : Part 1 : 2016
Relative Humidity : $(50 \pm 10)\%$	<b>Calibration Performed at</b> : Laboratory

<b>MAJOR EQUIPMENT USED</b>		<b>Nomenclature</b>	<b>Ident. No.</b>	<b>Traceability Certificate No.</b>	<b>Valid upto</b>
Length Bar Holders		Length Bar	MMI/12	TI/F/SGS/010/23 (Tanson)	18-06-25
Length Bar		Slip Gauge (32/1)	MMI/34	TSC/22-23/9295-02	15-09-23
			MMI/22 (3190)	TI/K/SGS/003/22 (Tanson)	08-11-24

<b>CALIBRATION RESULT</b>	<b>Standard</b>	<b>DUC Reading</b>					
		<b>Size</b> <b>(mm)</b>	<b>External jaws</b> <b>(mm)</b>	<b>Error</b> <b>(mm)</b>	<b>Internal jaws</b> <b>(mm)</b>	<b>Error</b> <b>(mm)</b>	<b>Depth bar</b> <b>(mm)</b>
	0.000	0.00	0.00	0.00	0.00	0.00	0.00
	25.000	25.00	0.00	25.00	0.00	25.00	0.00
	50.000	50.00	0.00	50.00	0.00	50.00	0.00
	75.000	75.00	0.00	75.00	0.00	75.00	0.00
	100.000	100.00	0.00	100.00	0.00	100.00	0.00
	150.000	150.00	0.00	150.00	0.00	150.00	0.00

### REMARKS :

1. DUC = Device Under Calibration, UUC=Unit Under Calibration
2. Expanded uncertainty of measurement at approx 95% confidence level for coverage factor( $k$ )=2 is  $\pm 11.2 \mu\text{m}$
3. Suggested next due date of calibration is given as requested by customer.
4. DUC has been calibrated against lab standards are traceable to national & international standards.
5. This result of calibration refer to only to the particular item submitted for calibration.
6. The result reported in this certificate are valid at the time of and under the stated conditions of Measurement.
7. This certificate shall not be reproduced, except in full, unless a written permission for the publication of an approved abstract has been obtained from the CEO, Acumen Measurements & Consultancy Pvt. Ltd., New Delhi.



Issued &amp; Authorised By

U C Sutar  
(TM / QM)Anjali Devi  
(Calibrated By)

\*End Of Report\*





# TransCal

Measurement to Perfection...

Main Bld. Premises : Centenary Building (G. Flr), Door No. At : 100  
 W. Park Rd., Between Sampighe Road And Margosa Rd.,  
 10th Crs., Malleswaram, Bangalore City, Pin - 560003



CC-2231

## CALIBRATION CERTIFICATE

Customer Name & Add. : M/s. Acumen Measurements & Consultancy Pvt. Ltd.,  
 D - 10/6, First floor, Okhla Industrial Area, Phase - I, New Delhi IND 110020

Customer's Reference : SRF No. : TSC/22-23/9295 Dated : 15 Sep 2022

ULR.NO CC223122000095549F

Calibration Certificate Number	Calibrated On	Recommended Calibration Due	Page Number
TSC/22-23/9295-2	15 Sep 2022	15 Sep 2023	1 of 2

Details of device under calibration Transcal ID : TSC373585

Nomenclature : Length Bar	No. of Pages : 2
Make : Mikronix	Cal Procedure No. : TSC/CAI/442
Model/Range : M-2	DUC Received : 15 Sep 2022
SI No. : 3365	DUC Condition on Receipt : Satisfactory
ID No. : MMI/34	Cal At : Dimensional Lab

Environmental Conditions : Temperature in °C : 20.2

Humidity in RH % : 52.6

Standards used :

SI No.	Nomenclature	Make	Model	SI No/ID.No.	Certificate No.	Validity
1	Height Gauge	Trimos	VT600MA	8148	TSC/21-22/INH/MCAL-135-1	11 Oct 2022
2	Slip Gauge Set	KCP	0.5-100mm ("0"Grade)	237	TSC/20-21/INH/MCAL-05-1	30 Sep 2022

Note :

- This Calibration Certificate relates only to the above DUC & Reported results are valid at the time of and under the stated conditions of measurements.
- Partial Publication/ reproduction of this Certificate in any form is not permitted without the written consent of Transcal.
- Errors if any , in this Certificate shall be brought to notice within 45 days from the date of this Certificate
- Measurement Uncertainty reported is at approximately 95 % confidence level with k=2; Units of Measurement results & Measurement Uncertainty are same as that of range selected - Unless otherwise indicated.
- Calibration of the DUC are traceable to National/International Standards
- Corrections/erasing, invalidate the Calibration Certificate- exception to the 'Final Page or Part of this Report- provided for incorporation of additional data( To be filled by customer authorized signatory and not under calibration laboratory control).
- In Result Sheets, 'Pass' indicates measured readings are within specification limit, 'Fail' Indicates measured readings are out of specification limit & '-' indicates no specification limit furnished.
- Unless otherwise specified the Measurement Data reported is "As Found"-Without any adjustment .
- Consider Model or Range whichever is applicable.
- NABL-133 guidelines are adopted for use of NABL symbol.

Calibrated By  
  
 Saiganesh S R  
 (Calibration Engineer)

Checked By  
  
 Anandesh T N  
 (Sr. Calibration Engineer)



Authorised By  
  
 Anandmurthy B.S  
 (Lab Incharge)



# TANSON INSTRUMENT

(ULTRA-HIGH PRECISION MEASUREMENT & CALIBRATION)

## CALIBRATION CERTIFICATE OF SLIP GAUGE SET

Calibration Date : 09/11/2022

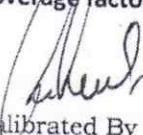
Suggested Due Date: 08/11/2024

No. of Pages: 1 of 2

ULR NO.: CC266022000002069F

Certificate No. TI/K/SGS/003/22

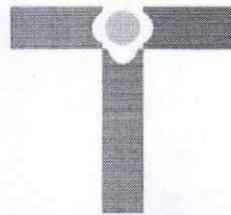
Tested for	M/s. ACUMEN MEASUREMENTS & CONSULTANCY PVT. LTD. D-10/6, (First Floor), Okhla Industrial Area, Phase - 1, New Delhi – 110020.
Description & Identification of Instruments	Slip Gauge Block Set (32/1), Range: 1.005-60mm, Make : Mikronix , Sr. No.: 3190, Id. No.: MMI/22, Material: Tungsten Carbide, Grade: 0.
Coefficient of Thermal Expansion	$4.7 \times 10^{-6} / ^\circ C$
Test Purpose	Measurements of Slip Gauges for their mean length at 20°C to IS:2984 of 2003.
Environmental Conditions	Temperature ( $20 \pm 1$ )°C, Relative Humidity : (50±10)%
Method Used	Comparison method as per TI/WI/45
Major Equipment Used	<p>a) Tungsten Carbide Slip Gauge Set M122/1, Grade: 'K' Set Sr. No.4041, Id. No. TI/SG/01, Calibrated at Mikronix Associates Aurangabad vide their Certificate No. SG 3015, Dated: 29-06-2021 valid upto 29-06-2023.</p> <p>b) Slip Gauge Block Calibrator with Two Electronic Probes (Model: GBC-931, Make: Mikronix, Sr. No.: 20024, Id. No.: TI/GBC/01) Calibrated at Mikronix Associates Aurangabad vide their Certificate No. GBC 3094, Dated: 13-09-2021 valid upto 13-09-2023.</p>

Expanded Uncertainty of measurement:  
(At 95% Confidence level with  
Coverage factor k=2)  
  
  
 Calibrated By  
Rahul Yadav



This certificate pertains to the items calibrated at TANSON INSTRUMENT. No report should be reproduced without prior permission. The results produced in this certificate are valid under stated condition at the time of calibration.

  
 Approved By  
MQ/TM  
(Hitesh Tanwar)



# TANSON INSTRUMENT

(ULTRA-HIGH PRECISION MEASUREMENT & CALIBRATION)



CC-2660

## CALIBRATION CERTIFICATE OF SLIP GAUGE SET

Issue Date: 19/06/2023

Calibration Date: 19/06/2023

Suggested Due Date: 18/06/2025

No. of Pages: 1 of 2

**ULR NO.: CC266023000001077F Certificate No. TI/F/SGS/010/23**

Tested for : **M/s. Acumen Measurements & Consultancy Pvt. Ltd.**  
**D-10/6, (First Floor), Okhla Industrial Area,**  
**Phase-I, New Delhi -110020.**

>Description & Identification of Instruments : Slip Gauge Block Set [Length Bar Holders (2 Pcs.)],  
 Range: (10 A & B) mm, Make: Mikronix,  
 Sr. No.: 3412, Id. No.: MMI/12.

Coefficient of Thermal Expansion :  $11.5 \times 10^{-6} / ^\circ C$

Calibration Location : Calibration Lab 2

Test Purpose : Measurements of Slip Gauges for their mean length at  $20^\circ C$  to IS:2984 of 2003.

Environmental Conditions : Temperature  $(20 \pm 1)^\circ C$ , Relative Humidity :  $(50 \pm 10)\%$

Method Used : Comparison method as per TI/WI/45

Major Equipment Used : a) Tungsten Carbide Slip Gauge Set M122/1, Grade: 'K'  
 Set Sr. No.4041, Id. No. TI/SG/01, Calibrated at Mikronix  
 Associates Aurangabad vide their Certificate No. SG 3015,  
 Dated: 29-06-2021 valid upto 29-06-2023.

b) Slip Gauge Block Calibrator with Two Electronic Probes  
 (Model: GBC-931, Make: Mikronix, Sr. No.: 20024,  
 Id. No.: TI/GBC/01) Calibrated at Mikronix Associates  
 Aurangabad vide their Certificate No. GBC 3094,  
 Dated: 13-09-2021 valid upto 13-09-2023.

Expanded Uncertainty of measurement:  $\pm (0.08 + L/1300) \mu m$ .  
 (At 95% Confidence level with  
 Coverage factor: k=2)

Calibrated By  
Rahul Yadav



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Approved By  
MQ/TM  
(Hitesh Tanwar)



# Acumen Measurements & Consultancy Pvt. Ltd.

(Calibration Division)

## CALIBRATION CERTIFICATE



Format No.:7.8F-01

Page 1 of 2

<b>ULR No.:</b> CC236423000001382F	<b>Certificate No.</b>	: AMCL/230635/03
<b>CUSTOMER NAME &amp; ADDRESS:-</b>	<b>Service Request Card No.</b>	: 230635
M/s. SS Power System Plot No. 271, Udyog Kendra-II, Ecotech-III, Greater Noida (U.P.) 201306 INDIA	<b>SRC/ Receipt Date</b>	: 14-09-2023
	<b>Date of Calibration</b>	: 14-09-2023
	<b>Sug. Cal. Due Date</b>	: 13-09-2024
	<b>Issue Date</b>	: 14-09-2023

### ITEM'S DESCRIPTION & IDENTIFICATION

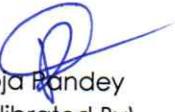
<b>Instrument Name</b>	: DIGITAL CLAMP METER	<b>Range / Size</b>	: Refer to Result
<b>Make</b>	: MetroQ	<b>Least Count</b>	: As per Range
<b>Model No.</b>	: MTQ999	<b>Visual Inspection</b>	: OK
<b>Serial No.</b>	: 202000033586	<b>Location</b>	: N/A
<b>Party ID Mark</b>	: N/A		

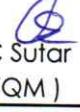
<b>ENVIRONMENTAL CONDITIONS</b>	<b>Calibration Procedure</b>	: ECP-02,03,04,13,14
Temperature : $(25 \pm 2)^\circ\text{C}$	<b>Reference Standard</b>	: IS: 13875 (Part 1 & 2 )
Relative Humidity : $(60 \pm 15)\%$	<b>Calibration Perfomed at</b>	: Laboratory

<b>MAJOR EQUIPMENT USED</b>	<b>Nomenclature</b>	<b>Ident. No.</b>	<b>Traceability Certificate No.</b>	<b>Valid upto</b>
Multi Products Calibrator (Fluke 5502A)		4451802 (MEI/26)	TSC/23-24/2038-1	21-04-24
Multifunction Calibrator (Fluke 9100) With Current Coil		958756002(MEI/01)	AMC/00000558	21-04-24

	<b>Standard Reading</b>	<b>*DUC Reading</b>	<b>Error</b>	<b>Uncertainty of Measurement (<math>\pm</math>)(%)</b>
<b>DC Voltage Measurement</b>				
1.0000 mV	1.0 mV	0.0 V	-0.02 V	0.76
10.0000 mV	10.0 mV	0.0 V	-0.02 V	0.76
100.000 mV	100.0 mV	0.0 V	-0.02 V	0.011
1.00000 V	0.998 V	-0.002 V	-0.002 V	0.011
10.0000 V	9.98 V	-0.02 V	-0.02 V	0.011
100.000 V	99.7 V	-0.3 V	-0.3 V	0.011
1000.00 V	1001 V	1 V	1 V	0.011
<b>AC Voltage Measurement (at 50 Hz.)</b>				
1.00000 V	0.995 V	-0.005 V	-0.005 V	0.06
10.0000 V	9.95 V	-0.05 V	-0.05 V	0.15
100.000 V	99.5 V	-0.5 V	-0.5 V	0.15
750.00 V	749 V	-1 V	-1 V	0.10
<b>DC Current Measurement (at 50 Hz.)</b>				
20.0000 A	19.9 A	-0.1 A	-0.1 A	1.40
50.000 A	49.7 A	-0.3 A	-0.3 A	1.40
100.000 A	100.1 A	0.1 A	0.1 A	1.40
200.000 A	200.5 A	0.5 A	0.5 A	1.40

Issued &amp; Authorised By


  
 Pooja Handey  
 (Calibrated By)

  
 U C Sutar  
 (TM/QM)




# Acumen Measurements & Consultancy Pvt. Ltd.

(Calibration Division)

## CALIBRATION CERTIFICATE



Format No.:7.8F-01

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<b>ULR No. : CC236423000001382F</b>	<b>Certificate No.</b>	: AMCL/230635/03	
<b>CUSTOMER NAME &amp; ADDRESS:-</b>	<b>Service Request Card No.</b>	: 230635	
M/s. SS Power System Plot No. 271, Udyog Kendra-II, Ecotech-III, Greater Noida (U.P.) 201306 INDIA	<b>SRC/ Receipt Date</b>	: 14-09-2023	
	<b>Date of Calibration</b>	: 14-09-2023	
	<b>Sug. Cal. Due Date</b>	: 13-09-2024	
	<b>Issue Date</b>	: 14-09-2023	
Standard Reading	*DUC Reading	Error	Uncertainty of Measurement (±)(%)
<b>DC Current Measurement (at 50 Hz.)</b>			
400.00 A	401 A	1 A	1.40
600.00 A	601 A	1 A	1.40
<b>AC Current Measurement (at 50 Hz.)</b>			
20.0000 A	19.9 A	-0.1 A	0.80
50.000 A	49.7 A	-0.3 A	0.80
100.000 A	100.2 A	0.2 A	0.80
200.000 A	200.4 A	0.4 A	0.80
400.00 A	401 A	1 A	0.80
600.00 A	601 A	1 A	0.80
<b>Resistance Measurement</b>			
1.0000 Ω	1.0 Ω	0.0 Ω	2.50
10.0000 Ω	10.0 Ω	0.0 Ω	0.10
100.000 Ω	99.9 Ω	-0.1 Ω	0.06
1.00000 kΩ	0.998 kΩ	-0.002 kΩ	0.06
10.0000 kΩ	10.02 kΩ	0.02 kΩ	0.06
100.000 kΩ	100.1 kΩ	0.1 kΩ	0.06
1.00000 MΩ	1.002 MΩ	0.002 MΩ	0.06
10.0000 MΩ	10.00 MΩ	0.00 MΩ	0.06
30.0000 MΩ	29.92 MΩ	-0.08 MΩ	0.40

**REMARKS :**

1. DUC = Device Under Calibration, UUC=Unit Under Calibration
2. Expanded uncertainty of measurement at approx 95% confidence level for coverage factor( $k$ )=2 is  $\pm$
3. Suggested next due date of calibration is given as requested by customer.
4. DUC has been calibrated against lab standards are traceable to national & international standards.
5. This result of calibration refer to only to the particular item submitted for calibration.
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Issued &amp; Authorised By

Pooja Pandey  
(Calibrated By)



\*End Of Report\*

U C Sutar  
(TM/QM )





# Acumen Measurements & Consultancy Pvt. Ltd.

## (Calibration Division)

D-10/6, First Floor, Okhla Industrial Area, Phase-1, New Delhi - 110020  
 Ph.: 011-42701221, 42701222, 42701223 Mobile: 8585965526, 9350380535  
 E: info@acumendelhi.com, calibration@acumendelhi.com W: www.acumendelhi.com



CC-2364

### CALIBRATION CERTIFICATE

Page 1 of 4

Format No.:7.8F-01

ULR No. : CC236423000000558F	Certificate No. : AMC/00000558
<b>CUSTOMER NAME &amp; ADDRESS:-</b>	Service Request No.&Date : 230104 & 21-04-2023
M/s. Acumen Measurement & Consultancy Pvt. Ltd. D-10/6, First Floor, Okhla Indl. Area Phase - I, New Delhi - 110020.	Date of Calibration : 22-04-2023
	Sug. Cal. Due Date : 21-04-2024
	Issue Date : 23-04-2023

#### ITEM'S DESCRIPTION & IDENTIFICATION

Instrument Name : MULTIFUNCTION CALIBRATOR	Range / Size	: Refer to Result
Make : Fluke	Least Count	: As per Range
Model No. : 9100	Visual Inspection	: OK
Serial No. : 958756002	Location	: Electro-Technical Lab.
Part ID Mark : MEI/01		

<b>ENVIRONMENTAL CONDITIONS</b>	Calibration Procedure	: ECP-03,04,013,14
Temperature : (25 ± 2)°C	Reference Standard	: IS: 13875 (Part 1 & 2)
Relative Humidity : (60 ± 15)%	Calibration Perfomed at	: Laboratory

<b>MAJOR EQUIPMENT USED</b>		<b>Ident. No.</b>	<b>Traceability Certificate No.</b>	<b>Valid upto</b>
Nomenclature	Reference Multimeter (Fluke 8508A)	453074937	C&I/CAL/22-06/121	17-06-23
	Timer Counter	BQ 938 (MEI/04)	TSC/22-23/2023-5	25-04-23

#### CALIBRATION RESULT

##### DC Voltage Measurement (Normal O/P)

Range	*DUC Reading	Std. Mean Reading	Error (±)	Uncertainty of Measurements (±)(%)
330 mV	1.000 mV	0.999982 mV	0.000018 mV	0.6000
	10.000 mV	9.999978 mV	0.0000220 mV	0.0085
	100.000 mV	99.9999767 mV	0.0000233 mV	0.0016
	300.000 mV	0.2999982 V	0.0000018 V	0.0021
3.2 V	1.00000 V	0.9999992 V	0.0000008 V	0.0011
	1.90000 V	1.8999988 V	0.0000012 V	0.0013
	10.0000 V	9.999993 V	0.000017 V	0.0010
	19.0000 V	18.999999 V	0.000001 V	0.0010
32 V	100.000 V	99.99998 V	0.000002 V	0.0010
	190.000 V	189.99997 V	0.000003 V	0.0010
	250.000 V	249.9999 V	0.0001 V	0.0013
	500.00 V	499.9997 V	0.0003 V	0.0015
1050 V	1000.00 V	999.9995 V	0.0005 V	0.0015

Issued &amp; Authorised By

Munesh Jadaun  
(Calibrated By)



U C Satar  
(TM/QM)



## CALIBRATION CERTIFICATE

Customer Name & Add. : M/s. Acumen Measurements & Consultancy Pvt. Ltd.,  
D - 10/6, First floor, Okhla Industrial Area, Phase - I, New Delhi IND 110020

SRF No. : TSC/23-24/2038

Dated : 22 Apr 2023

Cert.Issued Date : 25 Apr 2023

ULR.NO CC223123000041842F

Calibration Certificate Number	Calibrated Date	Calibration Due Date	Page Number
TSC/23-24/2038-1	22 Apr 2023	21 Apr 2024	1 of 21

### Details of device under calibration

Transcal ID : TSC226781

Nomenclature	Multiproduct calibrator	No. of Pages	23
Make	Fluke	Cal Procedure No.	TSC/CAL/323
Model/Range	5502A	DUC Received	22 Apr 2023
SI No.	4451802	DUC Condition on Receipt	Satisfactory
ID No.	MEI/26	Cal At	Electro Technical Lab
Calibrated By	Kiran Lalachan, Calibration Engineer		

Environmental Conditions : Temperature in °C : 25±4

Humidity in RH % : 30-75

### Standards used :

SI No.	Nomenclature	Make	Model	SI No/ID.No.	Certificate No.	Validity
1	Digital Multimeter	Fluke	8508A	301069380	CR/PCAL/51956/2	26 Apr 2023
2	Multiproduct calibrator	Fluke	5522A	3632901	CR/PCAL/52003	15 Jun 2023
3	Universal Frequency Counter	Philips	PM6669	BQ1442	TSC/23-24/INH/ECAL-248--1	31 Mar 2024
4	Multi-Product Calibrator	Fluke	5520A	8130001	TSC/22-23/INH/ECAL-01-1	22 Sep 2023
5	Digital Multimeter	HP	3458 A	MY45043511	TSC/22-23/INH/ECAL-30-1	13 Feb 2024
6	Shunt	Agilent	34330A	0822	TSC/22-23/INH/ECAL-31-1	03 Mar 2024
7	Digital Power Meter	Yokogawa	WT-210	27D514141E	TSC/22-23/INH/ECAL-53-1	30 Nov 2023
8	Oscilloscope	Tektronix	DPO 7254	B056667	TSC/22-23/INH/RFCAL/OSC-31-1	01 Dec 2023



Reviewed & Authorised By

Janani V  
(Sr.Calibration Engineer)