

## CALIBRATION REPORT

Product	SCOT M3K	Customer	Oasis Techno Engineers, Noida
Sr. No.	2100.02AG0500	Calibrated on	02.05.2023
Report No.	CAL/SY/AK012	Calibration Due on	01.05.2024



Reference Standard used for Calibration:			
Calibrator	SCALE TCV	Calibrated by	ARAI Pune
Report Reference No.	ARAI/CAL/2212/3189	Calibration Due	20.12.2023

### 1.0 OBSERVATIONS:

Sr. No.	Parameter	Value on Calibration	Value Measured on UUC	Deviation Allowed	Calibration Status
1	TIME INTERVAL	100 mSec	R – 100 mS	± 1mS	OK/FAIL
			Y – 101 mS	± 1mS	OK/FAIL
			B – 100 mS	± 1mS	OK/FAIL

### 2.0 BRIEF RESULTS:

The product under test complies with calibration specification indicated above and is verified to be within calibration.

Tested By	Certified By
 02/05/23	 02/05/23



ULR-CC274222000004347F <b>CALIBRATION CERTIFICATE</b>					
Date of Calibration	Recommended Date for Next Calibration	Date of Issue	Certificate No.	Docket No.	Page
20.12.2022	20.12.2023	27.12.2022	ARAI/CAL/2212/3189	857/2022-2023	1 of 2
1. Customer Name & Address (*)		SCOPE T&M PVT. LTD. EL 31 /11, " J " BLOCK MIDC BHOSARI PUNE 411 026. MAHARASHTRA			
2 Calibration Carried out at		Calibration Laboratory			
3 Customer Requirements (*)		Calibration without adjustment.			
4. Date of Receipt/Inspection of Instrument		15.12.2022			
5 Condition of the Instrument		Instrument received in working condition.			
DETAILS OF THE DEVICE UNDER CALIBRATION : (*)					
Name:	Scale TCV	Make:	Scope T&M Pvt. Ltd.	Model:	Scale TCV
Sr No:	2204.00AC04	ID No:	Sr. No. 2204.00AC04	Range:	Refer Results
Resolution:	NA	Accuracy:	Not mentioned		
Environmental Conditions	Temperature:	(25 ± 4)°C	Relative Humidity	(30 to 75)%	Baro Pre NA
REFERENCE STANDARD USED FOR CALIBRATION (TRACEABLE TO NATIONAL / INTERNATIONAL STANDARDS)					
Name of Equipment	Id. No.	Due Date	Traceability (Report No.)		
Digital Multimeter	CAL/178	21.11.2023	ARAI, Pune (ARAI/CAL/2211/2858)		
Universal Counter	CAL/STD/ELE/097	24.12.2022	ERTL(W)/2021 S&C 343		
CALIBRATION PROCEDURE NO. CP:003:CAL					
Remarks : Calibration sticker is issued and customer has to refer the calibration results during use.					

Progress through Research

*S.P. Sheth*  
Calibrated By  
[ S.P.Sheth, ENGR. ]



CC-2742

*V.K. Jadhav*  
Authorised Signatory  
[ V.K.Jadhav, D. D. ]

**NOTE**

1. This certificate refers only to particular item(s) submitted for calibration. 2. This Certificate shall not be reproduced, except in full, unless written permission for the publication of an approved abstract has been obtained from the Director, Automotive Research Association of India (ARAI), Pune. 3. The calibration results reported in this Certificate are valid at the time and under the stated conditions of measurements. 4. ARAI is not responsible, or stand guarantor, for calibration status through out the life of the equipment. However, the user is responsible to maintain the calibration accuracy within specified limits. 5. NABL Certificate No. CC-2742 (Electro-Technical, Mechanical, Thermal, Fluid Flow). 6. The information marked with "(\*)" is provided by customer.



An ISO 9001, ISO 14001, ISO 45001 and ISO/IEC 27001 Certified Organization

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ARAI Homologation & Technology Centre (ARAI-HTC), Chakan  
ARAI Forging Industry Division (ARAI-FID), Chakan  
ARAI Regional Centre South (ARAI-RCS), Chennai

Date of Calibration	Recommended Date For Next Calibration	Date of Issue	Certificate No.
20.12.2022	20.12.2023	27.12.2022	ARAI / CAL / 2212 / 3189

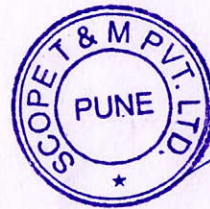
Calibration Results: Without Adjustment

Sr. No.	Parameter	Terminals	Expected DUC Reading	Actual Master Reading	Deviation	± Expanded Uncertainty at 95.45% C.L. with respective value of k	
1	Open Time (Main) / Period	GND & Cal 2	50 ms	50.025 ms	0.025 ms	0.0158 ms	k= 4.53
2	Open Ramp Time / Period	GND & Cal 4	75 ms	75.031 ms	0.031 ms	0.021 ms	k= 4.53
3	Close Time (Main) / Period	GND & Cal 5	100 ms	100.024 ms	0.024 ms	0.012 ms	k= 4.53
4	Close Ramp Time / Period	GND & Cal 6	150 ms	150.028 ms	0.028 ms	0.0059 ms	k= 4.53
5	Ramp Voltage	GND & VAR	4 V	4.0035 V	0.0035 V	0.00025 V	k = 2.00
6	Current	C + & C -	1 A	0.9792 A	-0.0208 A	0.0011 A	k = 2.00

Note : 1. DUC: Device Under Calibration  
 2. For ± NABL CMC refer (2 pages) annexure  
 3. Recommended date for next calibration is based on customer requirement  
 \*\*\* End of Certificate \*\*\*

*Sheth*

Calibrated By  
 [ S.P.Sheth, ENGR ]



*5/1/23*

*[Signature]*

Authorised Signatory  
 [ V.K.Jadhav, D.D. ]

## Annexure

Source Capability at Lab					
Sr. No.	Parameters	Ranges	± NABL CMC in %		
1	DC Voltage	0.1 mV to 1 mV	0.48 - 0.048		
		1 mV to 200 mV	0.048 - 0.0013		
		200 mV to 22 V	0.0012 - 0.0006		
	2	DC Current	22 V to 1000 V	0.0006 - 0.00094	
			10 µA to 220 µA	0.074 - 0.0084	
			220 µA to 22 mA	0.0084 - 0.0044	
			22 mA to 2.2 A	0.0044 - 0.010	
			2.2 A to 11 A	0.010 - 0.047	
			11 A to 20 A	0.047 - 0.11	
			20 A to 1000 A	0.09 to 0.81	
3	Resistance	1 Ω to 19 Ω	0.013 - 0.0028		
		19 Ω to 190 kΩ	0.0027 - 0.0015		
		190 kΩ to 1.9 MΩ	0.0015 - 0.0027		
		1.9 MΩ to 19 MΩ	0.0027 - 0.0059		
		19 MΩ to 100 MΩ	0.0059 - 0.014		
		100 MΩ to 400 MΩ	0.019 - 0.36		
		400 MΩ to 999.9 MΩ	0.36 - 0.55		
		1 GΩ	0.042		
		25 Ω	0.00032		
		100 Ω	0.00025		
		300 Ω	0.00025		
		400 Ω	0.00039		
		4	AC Voltage	10 Hz to 20 kHz	
				1 mV to 2.2 mV	0.49 - 0.26
				2.2 mV to 2 V	0.26 - 0.0071
2 V to 100 V	0.0071 - 0.034				
20 kHz to 100 kHz					
1 mV to 22 mV	0.75 - 0.036				
22 mV to 200 V	0.088 - 0.0091				
100 kHz to 300 kHz					
1 mV to 2.2 V	1.32 - 0.057				
2.2 V to 200 V	0.057 - 0.042				
300 kHz to 1 MHz					
1 mV to 2.2 V	2.64 - 0.13				
2 V to 20 V	0.13 - 0.22				
40 Hz to 20 kHz					
100 V to 200 V	0.019 - 0.0091				
200 V to 1000 V	0.0091 to 0.039				
5	AC Current			10 Hz to 1 kHz	
				10 µA to 220 µA	0.22 - 0.019
				220 µA to 220 mA	0.019 - 0.033
				40 Hz to 1 kHz	
		220 mA to 10 A	0.019 - 0.059		
		10 A to 20 A	0.059 - 0.27		
		1 kHz to 5 kHz			
		20 mA to 220 mA	0.018 - 0.027		
		220 mA to 10 A	0.027 - 0.12		
		6	AC Current	5 kHz to 10 kHz	
20 mA to 10 A	0.027 - 0.42				
50 Hz					
20 A to 1000 A	0.27 - 0.84				
AC Power	(120 V to 240 V / 10 mA to 20 A @ UPF, 50Hz)				
	1.2 W to 120 W		0.126		
	120 W to 1200 W		0.126 - 0.18		
	1200 W to 4800 W		0.18		
DC Power	1 V to 1000V, 10 mA to 19.95 A				
	1 W to 1000 W		0.093 - 0.0063		
	1000 W to 12000 W		0.0063 - 0.121		
Power Factor	0 to 1 PF				
			0.32 - 0.18		
K Type T/C	-250 °C to -200 °C		0.15 °C		
	-200 °C to 1370 °C		0.031 °C		
J Type T/C	-210 °C to -200 °C		0.034 °C		
	-200 °C to 1200 °C		0.021 °C		
E Type T/C	-250 °C to -200 °C		0.06 °C		
	-200 °C to 1000 °C		0.03 °C		
N Type T/C	-250 °C to -200 °C		0.20 °C		
	-200 °C to -100 °C		0.08 °C		
	-100 °C to 1300 °C		0.03 °C		
R Type T/C	0 °C to 100 °C		0.1 °C		
	100 °C to 1768 °C	0.061 °C			
S Type T/C	0 °C to 100 °C	0.1 °C			
	100 °C to 1768 °C	0.07 °C			
B Type T/C	200 °C to 500 °C	0.24 °C			
	500 °C to 1820 °C	0.07 °C			
T Type T/C	-250 °C to -200 °C	0.09 °C			
	-200 °C to 400 °C	0.04 °C			
RTD	-200 °C to 850 °C	0.03 °C			
DC Capacitance	3 nF to 400 nF	1.0 - 0.42			
	400 nF to 400 µF	0.42 - 0.65			
	400 µF to 30 mF	0.65 - 1.40			
Frequency	1 Hz to 350 MHz	0.0012			
	Period	5 ns to 100 ms	0.00012		
	100 ms to 5 s	0.00012			
Vertical deflection (Square Wave, DC Function & Sine function)	2 mVpp to 120 Vpp	0.30			
Horizontal Deflection	2 ns to 5 s	0.003			
Bandwidth	50 kHz to 600 MHz	1.5 - 6.5			

Measure Capability at Lab			
Sr. No.	Parameters	Ranges	± NABL CMC in %
1	DC Voltage	0.1 mV to 1 mV	0.132 - 0.013
		1 mV to 200 mV	0.013 - 0.0007
		200 mV to 1000 V	0.0007 - 0.001
2	DC Current	1 kV to 10 kV	1.16
		10 µA to 200 µA	0.0087 - 0.0023
		200 µA to 200 mA	0.0023 - 0.0069
		200 mA to 2 A	0.0069 - 0.024
3	Resistance	2 A to 20 A	0.024 - 0.050
		1 Ω to 20 kΩ	0.0062 - 0.0011
		20 kΩ to 20 MΩ	0.0011 - 0.0044
		20 MΩ to 200 MΩ	0.0044 - 0.037
4	AC Voltage	10 Hz to 1 kHz	
		1 mV to 1 V	1.64 - 0.011
		1 V to 100 V	0.011 - 0.033
		40 Hz to 20 kHz	
		100 V to 1000 V	0.033
		1 kHz to 10 kHz	
		1 mV to 100 V	0.48 - 0.015
		10 kHz to 100 kHz	
		1 mV to 100 V	2.4 - 0.018
		100 kHz to 1 MHz	
		1 V to 10 V	3.46 - 2.31
		50 Hz	
1 kV to 10 kV	2.5		
5	AC Current	10 Hz to 1 kHz	
		10 µA to 200 mA	0.29 - 0.048
		200 mA to 20 A	0.048 - 0.11
		1 kHz to 5 kHz	
		10 mA to 200 mA	0.058 - 0.048
		200 mA to 20 A	0.048 - 0.30
	Frequency	1 Hz to 350 MHz	0.0005 - 0.00005
	Period	5 ns to 5 s	0.00012
	Time	5 s to 24 hour	0.03 s
	K Type T/C	-250 °C to -200 °C	0.04 °C
		-200 °C to 1370 °C	0.02 °C
	J Type T/C	-210 °C to -200 °C	0.013 °C
		-200 °C to 1000 °C	0.013 °C
	N Type T/C	-250 °C to -200 °C	0.012 °C
		-200 °C to 1300 °C	0.015 °C
	B Type T/C	200 °C to 500 °C	0.087 °C
		500 °C to 1820 °C	0.026 °C
R Type T/C	0 °C to 100 °C	0.03 °C	
	100 °C to 1768 °C	0.02 °C	
S Type T/C	0 °C to 100 °C	0.03 °C	
	100 °C to 1768 °C	0.03 °C	
T Type T/C	-250 °C to 400 °C	0.03 °C	
	-200 °C	0.01 °C	
RTD	-200 °C	0.01 °C	
	-199.99 °C to 850 °C	0.031 °C	

*JLM*

