

Data Logger Details for "Cool Room" at DEHRADUN

Sr.No.	Data Logger Alias (In Report)	Data Logger ID
1	S1400	VCVS/100/1400
2	S1401	VCVS/100/1401
3	S1402	VCVS/100/1402
4	S1403	VCVS/100/1403
5	S1404	VCVS/100/1404
6	S1405	VCVS/100/1405
7	S1406	VCVS/100/1406
8	S1407	VCVS/100/1407
9	S1408	VCVS/100/1408
10	S1409	VCVS/100/1409
11	S1410	VCVS/100/1410
12	S1411	VCVS/100/1411
13	S1412	VCVS/100/1412
14	S1413	VCVS/100/1413
15	S1414	VCVS/100/1414
16	S1415	VCVS/100/1415
17	S1416	VCVS/100/1416
18	S1417	VCVS/100/1417
19	S1418	VCVS/100/1418
20	S1419	VCVS/100/1419
21	S1420	VCVS/100/1420
22	S1421 AMB	VCVS/100/1421



Vaidyanatheshwara Instruments

CERTIFICATE OF CALIBRATION



Vaidyanatheshwara Instruments

CERTIFICATE OF CALIBRATION



No. 30/1A, 9th Main Road, 3rd Cross, Raily Ganesh Nagar, J.B. Kaval, Nandhini Layout Post, Bangalore - 560 096.
Ph: 080-2337286, Mob: 996586789 / 9632221171 / 9964308118 | Email: info@vaidgroup.com Web: www.vaidgroup.com

NABL Accredited Calibration Lab as per ISO/IEC 17025 : 2017 With valid Certificate No. CC-2473

1 Name and Address of Customer

M/s. Reliable Technical Services,
(A Division Of Reliable Technocare Pvt Ltd.)
Reliable House 487/2834, Behind Police Station,
Sant Tukaram Nagar, Pimpri, Pune - 411018.

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2 Customer Reference

- 2.1 ULR No : CC247322200001173F
- 2.2 SRF No : 2886
- 2.3 Certificate No : VV23-23/2886-05
- 2.4 Formal No : VV-FRM-ET-008
- 2.5 DC No & Date : RTS/2209 & 13-09-2022
- 2.6 Issue Date : 23-09-2022

3 Details Of Device Under Calibration(DUC)

- 3.1 Nomenclature : 6.5 Digit Multimeter
- 3.2 Make / Model : Pincodes / MS300A
- 3.3 SI No / Id No : TW00006839 / RTS-DMM-02
- 3.4 DUC Condition : Satisfactory
- 3.5 Calibration Procedure : Sop-37-08
- 3.6 No of Pages : 4
- 3.7 Calibration Date : 23-09-2022
- 3.8 Calibration Due : 22-09-2023
- 3.9 Calibration done at : VI Electrical Lab
- 3.10 Discipline : Electro- Technical

4 Environmental Condition

Temperature : 25.2 °C Humidity : 51 %RH

5 Standards Used for Calibration

SI. No.	Nomenclature	Make / Model	SI. No	Certificate No.	Validity
1	Multipoint Calibrator	Fuke & 5522A	2030905	CR/PCAL/52067	12-06-2023

6 Note:

- 6.1. The Calibration Certificate relates only to the above DUC.
- 6.2. Publication or reproduction of this Certificate in any form other than by complete set of the whole report & in the language, written, is not permitted without the written consent of VI Lab.
- 6.3. Corrections/altering, invalidate the Calibration Certificate.
- 6.4. Calibration of the DUC are traceable to National standards/International Standards
- 6.5. Any error in this Certificate should be brought to our knowledge within 30 days from the date of this Cert.
- 6.6. Results Reported are valid at the time of and under the stated conditions of measurements.
- 6.7. The usage of NABL Symbol is as per NABL guidelines given in NABL-133

Calibrated By

Vijay Varga

(Calibration Engineer)

Checked By

Guruprasad S C

(Lab In-Charge)



Certificate No. VV23-23/2886-05

Page No: 2 of 4

Results:

Sl. No.	Parameter	Range	Standard Input	DUC Reading	Error Claimed (t)	Deviation Observed	Measurement Uncertainty (t)	k
1	DC Voltage	1 V	0.5 mV	0.5003 mV	0.0003 mV	0.0003 mV	0.00012 mV	2.0
2			10	10.0008	0.0040	0.0008	0.00039	2.0
3			20	20.0016	0.0045	0.0015	0.00078	2.0
4			25	25.0016	0.0048	0.0016	0.00068	2.0
5			30	30.0018	0.0050	0.0018	0.00117	2.0
6			35	35.0020	0.0053	0.0020	0.00065	2.0
7			40	40.0023	0.0055	0.0023	0.00156	2.0
8			50	50.0026	0.0060	0.0026	0.00186	2.0
9			100	100.0028	0.0065	0.0028	0.00196	2.0
10			0.1 V	0.100001 V	0.000011 V	0.000004 V	0.000004 V	2.0
11			0.5	0.500004	0.000027	0.000004	0.000008	2.0
12			1	1.000010	0.000047	0.000010	0.000015	2.0
13			1 V	1.00001 V	0.00009 V	0.00001 V	0.000015 V	2.0
14			5	5.00005	0.00023	0.00005	0.000060	2.0
15			10	10.00011	0.00040	0.00011	0.000160	2.0
16			10 V	10.0001 V	0.0011 V	0.0001 V	0.000160 V	2.0
17			50	50.0004	0.0028	0.0004	0.001150	2.0
18			100	100.0008	0.0061	0.0008	0.002300	2.0
19			100 V	100.001 V	0.015 V	0.001 V	0.002300 V	2.0
20			500	500.004	0.033	0.004	0.011500	2.0
21			1000	999.987	0.055	-0.013	0.023000	2.0
22			0.1 mA	0.100015 mA	0.00205 mA	0.00015 mA	0.00002 mA	2.0
23			5	5.00039	0.00450	0.00039	0.00055	2.0
24			10	10.00050	0.00700	0.00050	0.00110	2.0
25			10 mA	10.0012 mA	0.0100 mA	0.0012 mA	0.00110 mA	2.0
26			50	50.0032	0.0300	0.0032	0.00560	2.0
27			100	100.0053	0.0550	0.0053	0.01100	2.0
28	DC Current		0.1 A	0.100016 A	0.000200 A	0.000016 A	0.00001 A	2.0
29			0.5	0.500053	0.000600	0.000053	0.00014	2.0
30			1	1.000113	0.001100	0.000113	0.00027	2.0
31			1 A	1.000019 A	0.00180 A	0.000019 A	0.00027 A	2.0
32			2	2.00037	0.00300	0.00037	0.00128	2.0
33			3	3.00043	0.00420	0.00048	0.00138	2.0

Calibrated By

Vijay Varga

(Calibration Engineer)

Checked By

Guruprasad S C

(Lab In-Charge)





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Vaidyanatheshwara INSTRUMENTS

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Results Contd...

Sl. No.	Parameter	Range	Standard Input	DIC Reading	Error Claimed (%)	Deviation Observed	Measurement Uncertainty (%)	k
34			0.1 A	0.100016 A	0.000500 A	0.000016 A	0.00023 A	2.0
35		1 A	0.5	0.500043	0.000900	0.000043	0.00115	2.0
36	AC Current @50Hz		1	1.000102	0.001400	0.000102	0.00230	2.0
37			1 A	1.00013 A	0.00330 A	0.00013 A	0.00230 A	2.0
38		3 A	2	2.00228	0.00460	0.00028	0.00460	2.0
39			3	3.00067	0.00630	0.00067	0.00690	2.0
40			1 mV	1.0025 mV	0.0406 mV	0.0025 mV	0.0004 mV	2.0
41		100 mV	10	10.0043	0.0460	0.0043	0.0042	2.0
42			50	50.0052	0.0700	0.0052	0.0430	2.0
43			100	100.0096	0.1000	0.0096	0.0600	2.0
44			0.1 V	0.100034 V	0.000360 V	0.000034 V	0.0001 V	2.0
45		1 V	0.5	0.500102	0.000600	0.000102	0.0004	2.0
46			1	1.000117	0.000900	0.000117	0.0006	2.0
47	AC Voltage @ 50 Hz		1 V	1.00030 V	0.00360 V	0.00030 V	0.0006 V	2.0
48		10 V	5	5.00046	0.00600	0.00046	0.00210	2.0
49			10	10.00102	0.00900	0.00102	0.00420	2.0
50			10 V	10.0096 V	0.0360 V	0.0096 V	0.00420 V	2.0
51		100 V	50	50.0113	0.0900	0.0113	0.01100	2.0
52			100	100.0211	0.0900	0.0211	0.02200	2.0
53			100 V	100.006 V	0.285 V	0.006 V	0.02200 V	2.0
54		750 V	500	500.024	0.525	0.024	0.1750	2.0
55			750	749.970	0.675	-0.630	0.2625	2.0

Calibrated By
Vidya
Vidya
(Calibration Engineer)

Checked By
Guruprasad S C
(Lab In-Charge)



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CUSTOMER SINCE - 1994

Vaidyanatheshwara INSTRUMENTS

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Results Contd...

Sl. No.	Parameter	Range	Standard Input	DIC Reading	Error Claimed (%)	Deviation Observed	Measurement Uncertainty (%)	k
56			100 Ω	1.0009 Ω	0.0041 Ω	0.0009 Ω	0.000150 Ω	2.0
57			50	50.0019	0.0090	0.0019	0.00200	2.0
58			100	100.0038	0.0140	0.0038	0.00400	2.0
59			0.1 K Ω	0.100002 K Ω	0.000220 K Ω	0.000002 K Ω	0.000004 K Ω	2.0
60			0.5	0.500016	0.000360	0.000016	0.000018	2.0
61		1 K Ω	1	1.000029	0.000110	0.000029	0.000036	2.0
62			1 K Ω	1.00005 K Ω	0.00020 K Ω	0.00005 K Ω	0.00003 K Ω	2.0
63		10 K Ω	5	5.00013	0.00600	0.00013	0.000175	2.0
64			10	10.00026	0.00110	0.0006	0.000350	2.0
65			10 K Ω	10.0002 K Ω	0.0020 K Ω	0.0002 K Ω	0.000350 K Ω	2.0
66	Resistance	100 K Ω	50	50.0006	0.0060	0.0006	0.001700	2.0
67			100	100.0016	0.0100	0.0016	0.003400	2.0
68			0.1 M Ω	0.100005 M Ω	0.000200 M Ω	0.000005 M Ω	0.000003 M Ω	2.0
69		1 M Ω	0.5	0.500012	0.000360	0.000012	0.000021	2.0
70			1	1.000020	0.000110	0.000020	0.000041	2.0
71			1 M Ω	1.00005 M Ω	0.00050 M Ω	0.00005 M Ω	0.000041 M Ω	2.0
72		10 M Ω	5	5.00011	0.00210	0.00011	0.000700	2.0
73			10	10.00022	0.00410	0.00022	0.001400	2.0
74			10 M Ω	10.0052 M Ω	0.0800 M Ω	0.0052 M Ω	0.001400 M Ω	2.0
75			50	50.0106	0.4100	0.0106	0.150000	2.0
76		100 M Ω	100	100.0143	0.8100	0.0143	0.380000	2.0

Note:

1. Die and Continuity checked functionality and found ok.

Conclusion Remarks:-

1. All the readings are within specified accuracy limits.
2. Measurement Uncertainty reported is at 95.45 % confidence level.

Calibrated By
Vidya
Vidya
(Calibration Engineer)

Checked By
Guruprasad S C
(Lab In-Charge)





Calibration Certificate



CC 2733

FORMAT NO. BELZ/F/28

Page No.1 of 1

Name & Address of Client	Certificate No.	30060363
M/s: Reliable Technical Services Reliable House, 497/2814-35, Sant Tukaram Nagar, Pimpri, Pune, Maharashtra, India.	U.I.R. No.	CC273322300012328F
	Date of Issue	17/10/2022
	Date of Calibration Start & End	16/10/2022 - 17/10/2022
	Recommended Due Date	17/10/2023
	Service request No & Date	SO22-14448 - 16/10/2022

Instrument Details			
Instrument/Parameter Name	Digital Thermo Hygrometer With Sensor	Range/Size	-40 to 60°C/0 to 100%RH
Equipment/ Machine	N/A	Accuracy/Acceptance Criteria	Not Specified
Equipment Location	Not Specified	Least Count/Resolution	0.1°C/0.1%RH
Make/Model	Yudian/Rotronic	Calibrated At	Lab
Sr.No.	61319921		
ID.No.	RTS-HYG-04		

Master Equipment Used [Reference Standard/Working Standard]						
Sr. No.	Instrument Name	ID/Sr.No	Accuracy/Acceptance Criteria	Certificate No.	Calibrated By	Due Date
1	Super-DAQ Precision Temperature Scanner	BELZ/TDAQ-01/43580036/43660220	As Per Manual	FL/CET/26112021-C001	Fare Labs (NABL CC-2739)	29/11/2022
2	Std. Platinum Resistance Thermometer-SPRT	BELZ/TTS/SPRT-01/05580	±0.007°C	FL/C/TH/01042022-C001	Fare Labs (NABL CC-2739)	05/04/2023
3	Humidity & Temp. Sensor With Indicator	BELZ/TRHI-03/6220(IndL)	±0.8%RH	FL/C/TH/07012022-C158	Fare Labs (NABL CC-2739)	09/01/2023

Environmental Condition	Temperature(°C)	25±3	Calibration Method	CI(T)-07
	Relative Humidity(%RH)	30 to 70		

Calibration Results

S.No.	Std.Avg.Readings In	UUC Avg.Readings In	Expanded Uncertainty(±)
	IN Deg C AT 50%RH	IN Deg C AT 50%RH	
01.	0.189	0.3	±0.20°C
02.	10.243	10.1	
03.	20.188	20.0	
04.	39.910	39.7	
05.	60.205	59.9	
	IN %RH AT 25°C	IN %RH AT 25°C	
01.	11.16	10.7	±0.6%RH
02.	30.06	29.5	
03.	50.26	49.7	
04.	70.29	69.4	
05.	94.83	93.6	

The Expanded Uncertainty of measurement was evaluated at a confidence-level of 95.45% with coverage factor, k=2 for a normal probability distribution.

UUC-Unit Under Calibration

Remarks: Status report only.

Notes: 1. This Certificate refers only to the particular item submitted for calibration. 2. This Certificate shall not be reproduced, except in full, without the written permission of BELZ Calibration Lab. 3. Results Reported are valid at the time of and under the stated conditions of use. 4. Calibration Certificates issued for Weight & Measure parameters i.e. Mass, Length, Volume, Temperature, Humidity, etc., are for scientific purposes only and should not be used for Trade / Commercial purposes. 5. JAR has been calibrated against lab standards whose validity is traceable to NIST / NABL Accredited labs.	Calibrated by: Approved by: N. S. Chaudhary, N. S. Chaudhary/Vasubali Nehra 497/2814-35, Sant Tukaram Nagar, Pimpri, Pune, Maharashtra, India. Technical Manager
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BELZ CALIBRATION LAB

(A DIVISION OF BELZ INSTRUMENTS PVT. LTD.)

5L-123, NIT Faridabad-121001, Haryana, INDIA

E-mail: info@belz.in Website: www.belz.in GST No.: 06AABC87053L12M

Calibration Certificate No.: TL/022/654.2.2

ULR No.: CC284022000003669F

Discipline: Thermal

Page 1 of 1

M/S RELIABLE TECHNICAL SERVICES (A DIVISION OF RELIABLE TECHNOCARE PRIVATE LIMITED) "RELIABLE HOUSE" 497/2834-35, SANT TUKARAM NAGAR, PIMPRI, PUNE-411018 INDIA	J.O.NO. Received Date Calibration Date Next Cali. Due On Issue Date	: T/222/2/2123017945 : 08/06/2022 : 09/06/2022 : 08/06/2023 : 10/06/2022
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Sample Description :

Calibration Required at	: -196, -80, -35, 0, 50, 150, 250, 350, 400 & 500 °C
Item	: PT-100X1 SIMPLEX, 4 WIRE RTD
Sr. No.	: 19640
I.D. No.	: RTS-RTD-02
Range	: -200 to 500°C
Location	: At Lab
Condition of Item	: Satisfactory

Calibration Procedure The UUC was allowed to be stable at specified temperature points.
 The reading of Standard and UUC was recorded. This Certificate Format No. F-LAB-6.
 The report provides the reading and deviation. As per work instruction no. WI-LAB-16
 Temperature (in °C) against RTD reading (in Ohms) are calculated by using
 ASTM E-1137/E1137M-04. Minimum Immersion depth for RTD is 100mm.

The UUC has been compared with the following working standards of sensor & measuring instrument.

Standards	Traceable To	Certificate No.	Valid Up to
SSPRT PRECISION THERMOMETER LN2 APP. CALSYS -80/50 CALSYS 300 CALSYS 650	TEMPSSENS, UDAIPUR YMPL, UDAIPUR	TL/022/267.2.1 YMPL/329553/117617	02.03.2023 22.06.2022

The Standards used for calibration is traceable to National / International Standard.
 The results of calibration are as under :

Sr. No.	Standard Sensor °C	UUC		Dev. °C	Expanded uncertainty (± °C)
		Ohms	°C		
1	-195.65	20.505	-195.40	0.25	0.08
2	-79.88	68.450	-79.69	0.19	0.08
3	-34.90	86.315	-34.83	0.07	0.08
4	0.08	100.063	0.16	0.08	0.08
5	49.88	119.432	50.09	0.21	0.08
6	149.90	157.362	150.10	0.20	0.08
7	249.83	194.160	250.17	0.34	0.10
8	349.70	229.786	350.20	0.50	0.15
9	399.60	247.223	400.38	0.78	0.15
10	499.70	281.157	500.54	0.84	0.15

Temperature Scale: ITS -90

Ambient Temp. : 25±2°C

Relative Humidity : 50±20%RH


 Calibrated By


 Checked By


 Certified By
 Alpesh Parakh
 Technical Manager

Note:

- (1) The calibration results reported in this certificate are valid at the time of and under the stated condition of measurement for the particular sample.
- (2) The report shall not be reproduced except in full, without written permission of the laboratory
- (3) Coverage factor "k" = 2 at approx 95.45% confidence level.
- (4) Next Calibration Due Date mentioned as per customer requirement.