



Cert. No : CC-2788



MSIR INDIA
Calibration

#40, 2nd Floor, 2nd Street,
Padmavathi Nagar, Chromepet,
Chennai, Tamil Nadu - 600 044.

CALIBRATION CERTIFICATE

MCAL/FOR/TR-12

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PRF #	:	MCAL/PRF/072007	Date of Calibration	:	06-Jul-20
Certificate #	:	MSIR/410720/07-008	Recom. Due Date	:	05-Jul-21

DETAILS OF USER CUSTOMER		ULR #	:	ULR-CC278820000005392F
M/S. PSG College of Technology.,		Calibrated at	:	On-site
Peelamedu,		Date of Receipt	:	06-Jul-20
Coimbatore-6.		Cond. On Receipt	:	Satisfactory
		Date of Issue	:	08-Jul-20

DETAILS OF TEST / UNIT UNDER CALIBRATION					
Description	:	Documenting Process Calibrator	Identification #	:	--
Range	:	As Per Report	Serial #	:	3989014
Cal./Working Range	:	As Per Report	Make	:	Fluke
Least Count	:	As Per Report	Model / Type	:	754
Location	:	--	Accuracy	:	As Per Manual

DETAILS OF MASTER INSTRUMENT USED				
Description		Identification #	Valid upto	Certificate #
Multi product Calibrator		MCAL/INS/ET-01-01	04-May-21	Wavecal
AC/DC Clamp Coil Adaptor		MCAL/INS/ET-01-02	04-May-21	Wavecal
Digital multimeter		MCAL/INS/ET-02	01-Jun-21	MSIR India

MFC #	:	MCAL/MFC/ET-03, 06 & 07
Details of Env.	:	Temperature: 25±10°C Relative Humidity: 40-70 % RH

Remarks :

1. The reported Expanded Uncertainty is calculated at 95.45 % C.L with coverage factor k=2
2. The reported readings are average of three readings

Issued by :		Authorised by :	
MCAL - Engineer	Sangeetha.B	QM / TM	Kamalanathan.V

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(The Madras Science and Industrial Resources)

Phone : 044 2265 2634 +91 9789877567 Email: calibration@msirindia.com Web: www.msirindia.com



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Calibration Results						
S.No.	Parameter	Range	Standard Reading	Test Reading	Error	Uncertainty ±
1	DC Voltage	100	mV	mV	mV	mV
2			10.000	9.999	-0.001	--
3			50.000	49.998	-0.002	0.020
4	DC Voltage	3	V	V	V	V
5			0.300	0.30000	0.00000	--
6			1.500	1.50000	0.00000	0.001
7	DC Voltage	30	V	V	V	V
8			2.700	2.70008	0.00008	0.001
9			3.000	3.0000	0.0000	--
10	DC Voltage	300	V	V	V	V
11			15.000	15.0005	0.0005	0.006
12			27.000	27.0013	0.0013	0.011
13	DC Current	30	mA	mA	mA	mA
14			30.000	30.01	0.01	--
15			150.000	150.07	0.07	0.060
16	DC Current	100	mA	mA	mA	mA
17			270.000	270.13	0.13	0.108
18			3.000	2.999	-0.001	0.00120
19	DC Current	100	mA	mA	mA	mA
20			15.000	14.999	-0.001	0.006
21			27.000	27.002	0.002	0.014
22	DC Resistance	10	Ω	Ω	Ω	Ω
23			10.000	10.00	0.00	0.00400
24			50.000	50.02	0.02	0.020
25	DC Resistance	100	Ω	Ω	Ω	Ω
26			90.000	90.05	0.05	0.045
27			1.000	1.01	0.01	0.000
28	DC Resistance	100	Ω	Ω	Ω	Ω
29			5.000	5.03	0.03	0.002
30			9.000	9.05	0.05	0.004
31	DC Resistance	1	KΩ	KΩ	KΩ	KΩ
32			10.000	10.1	0.1	0.004
33			50.000	50.4	0.4	0.020
34	DC Resistance	10	KΩ	KΩ	KΩ	KΩ
35			90.000	90.8	0.8	0.036
36			0.100	0.1	0.0	0.000
37	DC Resistance	10	KΩ	KΩ	KΩ	KΩ
38			0.500	0.5	0.0	0.000
39			0.900	0.8	-0.1	0.000
40	Frequency	10 to 10kHz	Hz	Hz	Hz	Hz
41			1.000	1.1	0.1	0.000
42			5.000	5.1	0.1	0.002
43	Frequency	10 to 10kHz	Hz	Hz	Hz	Hz
44			9.000	9.3	0.3	0.004
45			50.000	50.0	0.0	0.003
46	Frequency	10 to 10kHz	Hz	Hz	Hz	Hz
47			100.000	100.0	0.0	0.006
48			1000.000	999.9	-0.1	0.060
49	Frequency	10 to 10kHz	kHz	kHz	kHz	kHz
50			5.000	5.01	0.01	0.000
51			10.000	10.00	0.00	0.001

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S.No.	Parameter	Range	Standard Reading	Test Reading	Error	Uncertainty ±
6	AC Voltage	3	V	V	V	V
7			0.300	0.30000	0.00000	--
10			1.500	1.50000	0.00000	0.001
6	AC Voltage	30	V	V	V	V
7			2.700	2.70000	0.00000	0.001
10			3.000	3.00000	0.00000	--
6	AC Voltage	300	V	V	V	V
7			15.000	15.00002	0.00002	0.006
10			27.000	27.00008	0.00008	0.011
6	AC Voltage	300	V	V	V	V
7			30.000	30.01	0.01	--
10			150.000	150.04	0.04	0.060
			270.000	270.06	0.06	0.108

Source Mode

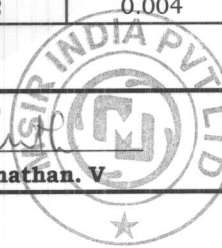
S.No.	Parameter	Range	Test Reading	Standard Reading	Error	Uncertainty ±
61	DC Resistance	10	Ω	Ω	Ω	Ω
62			1.000	1.05	0.05	0.000
64			5.000	5.08	0.08	0.002
65	DC Resistance	100	Ω	Ω	Ω	Ω
66			9.000	9.11	0.11	0.004
68			10.000	10.1	0.1	0.004
69	DC Resistance	1	KΩ	KΩ	KΩ	KΩ
71			0.100	0.1	0.0	0.000
72			0.500	0.5	0.0	0.000
73	DC Resistance	10	KΩ	KΩ	KΩ	KΩ
74			0.900	1.0	0.1	0.000
75			1.000	1.1	0.1	0.000
			5.000	5.5	0.5	0.002
			9.000	9.2	0.2	0.004

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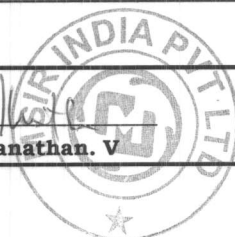
S.No.	Parameter	Range	Test Reading	Standard Reading	Error	Uncertainty ±
		Hz	Hz	Hz	Hz	Hz
82	Frequency	10Hz to 10kHz	10.00	10.000	0.000	0.047
83			100.00	100.000	0.000	0.470
84			500.00	500.000	0.000	2.350
			kHz	kHz	kHz	kHz
85			1	1.000	0.000	0.005
86			10	10.000	0.000	0.047
		°C	°C	°C	°C	°C
87	Thermocouple -200 to 1200°C	TC 'J'	-200.00	-200.77	0.77	0.350
88			0.00	-0.32	0.32	0.350
89			600.00	599.86	0.14	0.350
90			1200	1200.02	-0.02	0.350
		°C	°C	°C	°C	°C
91	Thermocouple -200 to 1370°C	TC 'k'	-190.00	-190.86	0.86	0.410
92			0.00	-0.35	0.35	0.410
93			600.00	599.79	0.21	0.320
94			1370	1369.97	0.03	0.320
		°C	°C	°C	°C	°C
95	Thermocouple -200 to 400°C	TC 'T'	-200.00	-200.75	0.75	0.800
96			0.00	-0.30	0.30	0.800
97			200.00	199.86	0.14	0.170
98			400	399.88	0.12	0.170
		°C	°C	°C	°C	°C
99	Thermocouple -200 to 950°C	TC 'E'	-200.00	-200.75	0.75	0.670
100			0.00	-0.24	0.24	0.670
101			500.00	499.95	0.05	0.670
102			950	950.03	-0.03	0.670
		°C	°C	°C	°C	°C
103	Thermocouple -20 to 1750°C	TC 'R'	0.00	-0.44	0.44	1.090
104			500.00	499.92	0.08	0.990
105			1000.00	999.90	0.10	0.990
106			1750	1749.70	0.30	0.990
		°C	°C	°C	°C	°C
107	Thermocouple -20 to 1750°C	TC 'S'	0.00	-0.56	0.56	1.090
108			500.00	499.57	0.43	1.090
109			1200.00	1199.77	0.23	1.090
110			1700	1699.81	0.19	1.090
		°C	°C	°C	°C	°C
111	Thermocouple 600 to 1800	TC 'B'	600.00	599.87	0.13	0.960
112			1200.00	1199.88	0.12	0.810
113			1500.00	1500.06	-0.06	0.810
114			1800	1800.07	-0.07	0.810

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