CERTIFICATE OF CALIBRATION

ISSUED BY: LAMBDA CALIBRATION LTD

DATE OF ISSUE: 12 March 2021

CERTIFICATE No: 650033







Units 11 - 13 Chorley Central Business Park Stump Lane, Chorley Lancashire PR6 0BL Tel: 01257 244670

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C Reed E Santos R Armitage K Quigley D Pilkington

Customer:

DJB Labcare Ltd

Address:

Cromwell Business Centre

Newport Pagnell

MK16 90S

Item Number:

15030095 (4046)

Description:

Digital Thermometer

Model/Range:

TMD-56

Manufacturer:

Amprobe

Date of Cal:

12 Mar 2021

Calibrated by:

Mohammed Abid

Procedure Name:

Amprobe, Digital Thermometer, TMD-56 (DJB Labcare)

Rev/Basis:

03:E-650, Based on BS EN 60584.1

Temp/Humidity:

20.0°C ± 2°C <80%rh

The Results on the following pages are: As Found

All Measurements are Traceable to National Standards.

Note 1: The unit under test was calibrated using a multifunction calibrator.

Note 2: Where the reported value lies within the specified tolerance then this will be

indicated by the word "PASS", if outside then by the word "FAIL".

Note 3: Values quoted in the "UUT Indicated Value" column are not necessarily quoted to the same resolution as the actual displayed value on the UUT.

Note 4: Any supplied test leads have been checked as part of the Visual/Operational test but have not been used during calibration.

Note 5: Temperature indicating instruments that contain an internal reference junction for use with thermocouples are calibrated with the reference junction enabled.

Note 6: Unless otherwise stated, the device has been calibrated with its protective cover removed (if a cover was fitted) and was powered by battery (if applicable).

Engineers' Notes:

Multi-function Calibrator: LMMC-02 / LMMC-04 / LMMC-10 / LMMC-14

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor k=2, providing a coverage probability of approximately 95%. The uncertainty evaluation has been carried out in accordance with UKAS requirements. Unless otherwise stated: [1] The 'Compliance Statement is based on 'simple acceptance' (result vs tolerance) with the relevant calibration uncertainty being no greater than the tolerance. [2] Reported activities were carried out at the address detailed in the header. [3] The results relate only to the items calibrated. This certificate is issued in accordance with the laboratory accreditation requirements of the United Kingdom Accreditation Service. It provides traceability of measurement to the SI system of units and / or to units of measurement realised at the National Physical Laboratory or other recognised national metrology institutes. This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory.

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UKAS ACCREDITED CALIBRATION LABORATORY No: 0495

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Parameter	UUT Range	UUT Indicated Value	Applied Value	Acceptanc Low	e Limits High	Summary
Visual/Opera Result of	itional Tes Operator E	t valuation				PASS
Measurement	of Thermoc	ouples (Electrical	Simulation)			
Channel T1						
Type T		-190.0°C -80.0°C -50.0°C -30.0°C -10.0°C 0.0°C 4.0°C 37.0°C 50.0°C 100.0°C 150.0°C 200.0°C 250.0°C 300.0°C 390.0°C	-189.7 -79.6 -49.5 -29.7 -9.8 0.2 4.0 37.2 50.2 100.2 150.1 200.2 250.1 300.1 390.2	-190.8 -80.7 -50.7 -30.3 -10.3 -0.3 3.7 36.7 49.7 99.7 149.6 199.6 249.6 299.6 389.5	-189.2 -79.3 -49.3 -29.7 -9.7 0.3 4.3 37.3 50.3 100.3 150.4 200.4 250.4 300.4 390.5	PASS PASS PASS PASS PASS PASS PASS PASS
Type K		0.0°C 500.0°C 1000.0°C	100.4 0.2 500.1 999.9	99.3 -0.3 499.4 999.2	100.7 0.3 500.6 1000.8	PASS PASS PASS PASS
Type J		20.0°C 1100.0°C	20.2 1100.0	19.7 1099.2	20.3 1100.8	PASS PASS
Type E		20.0°C 900.0°C	20.2 900.0	19.7 899.3	20.3 900.8	PASS PASS
Type N		20.0°C 1100.0°C	20.3 1100.1	19.6 1099.1	20.4 1101.0	PASS PASS
Type R		500.0°C 1100.0°C	500.0 1100.0	497.8 1097.5	502.3 1102.6	PASS PASS
Type S		500.0°C 1100.0°C	500.0	497.8 1097.5	502.3 1102.6	PASS PASS

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Parameter	UUT Range	UUT Indicated Value	Applied Value	Acceptance Low	Limits High	Summary
Channel T2						
Type T						
		-190.0°C	-189.9	-190.8	-189.2	PASS
		-80.0°C	-80.0	-80.7	-79.3	PASS
		-50.0°C	-50.0	-50.7	-49.3	PASS
		-30.0°C	-29.9	-30.3	-29.7	PASS
		-10.0°C	-9.9	-10.3	-9.7	PASS
		0.0°C	0.2	-0.3	0.3	PASS
		4.0°C	4.0	3.7	4.3	PASS
		37.0°C	37.1	36.7	37.3	PASS
		50.0°C	50.1	49.7	50.3	PASS
		100.0°C	100.2	99.7	100.3	PASS
		150.0°C	150.1	149.6	150.4	PASS
		200.0°C	200.1	199.6	200.4	PASS
		250.0°C	250.0	249.6	250.4	PASS
		300.0°C	300.0	299.6	300.4	PASS
		390.0°C	390.1	389.5	390.5	PASS
m		100.0°F	100.3	99.3	100.7	PASS
Type K		0.000				
		0.0°C	0.0	-0.3	0.3	PASS
		500.0°C	500.0	499.4	500.6	PASS
Maria T		1000.0°C	999.8	999.2	1000.8	PASS
Type J		20.0°C	00.0			
		1100.0°C	20.3	19.7	20.3	PASS
Type E		1100.0 C	1100.1	1099.2	1100.8	PASS
TAPE H		20.0°C	20.0	10 7	00 0	
		900.0°C	900.1	19.7	20.3	PASS
Type N		900.0 C	900.1	899.3	900.8	PASS
1,00 1		20.0°C	20.1	19.6	20.4	D30 CC
		1100.0°C	1100.0	1099.1	1101.0	PASS
Type R		1100.0	1100.0	1099.1	1101.0	PASS
- 2 1		500.0°C	500.0	497.8	502.3	ממממ
		1100.0°C	1100.0	1097.5	1102.6	PASS
Type S			TTO.0	1091.0	TT07.0	PASS
41 -		500.0°C	500.0	497.8	502.3	PASS
		1100.0°C	1100.0	1097.5	1102.6	PASS
				T021.0	## 0 7 • A	COMI

End of Calibration Data

Estimated Uncertainty of Measurement:

Electrical Measurement of Thermocouples

Type:	В	+500°C	to	+1820°C	±(0.64°C)
Type:	С	+0°C	to	+2320°C	±(0.48°C)
Type:	\mathbf{E}	-250°C	to	+1000°C	±(0.53°C)
Type:	J	-210°C	to	+1200°C	±(0.30°C)
Type:	K	-200°C	to	-250°C	±(0.66°C)
Type:	K			+1300°C	±(0.32°C)
Type:	L	-200°C	to	+900°C	$\pm (0.31$ °C)
Type:	N	-200°C	to	+1300°C	±(0.40°C)
Type:	R	+3°C	to	+1767°C	±(0.61°C)
Type:	S	+J°C	to	+1767°C	±(0.57°C)
Type:	T	-250°C	to	-200°C	±(0.69°C)
Type:	T	−200°C	to	+400°C	$\pm (0.32$ °C)