

CERTIFICATE OF CALIBRATION

Issued By : Time Electronics

Date of Issue : 20 May 2009

Certificate Number

DM10005

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Approved Signatory

Time Electronics

Unit 11



Sovereign Way

Tonbridge, Kent. TN9 1RH

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Sig 1

Sig 2

Sig 3

Customer /Owner

Cal Systems

Cal House

Unit 34 Lock Drive

Sevenoaks

Kent

Tel: 01732 355559

Fax:

Email: mail@t-e.co.uk

Instrument /Device

Type

Process Calibrator

Manufacturer

Fluke

Model Number

725

Serial Number

419456

ID Number

EC4

Date Received: 20 May 2009

Procedure

FLUKE-725-AUTO

Last Cert: 10034

Comments

Failed on 3.2kOhm Measure

Environmental Conditions

Temperature: 22.0°C ±4.0°C

Supply Voltage: 230V ±2V @ 50Hz ±5Hz

Relative Humidity: 50% ±10%

Traceability Information

Instrument Description

Serial No

Cert No

Cal Date

Cal Due

5025 Multifunction Calibrator

1089G08

UKAS-90897

08 May 2009

07 May 2010

AC Current: 0pA-200uA=0.07%+300nA|200uA-2mA=0.05%+300nA|2mA-20mA=0.05%+3uA|20mA-200mA=0.05%+30uA|200mA-2A=0.1%+0.5mA|2A-20A=0.2%+5mA|
AC Voltage: 1mV-20mV=0.05%+250uV|20mV-200mV=0.04%+150uV (45Hz-10kHz)|200mV-2V=0.03%+250uV (45Hz-10kHz)|2V-20V=0.03%+3mV (45Hz-10kHz)|20V-200V=0.06%+20mV|200V-1.05kV=0.08%+90mV|

DC Current: 0pA-200uA=150ppm+15nA|200uA-2mA=100ppm+40nA|2mA-20mA=80ppm+200nA|20mA-200mA=80ppm+3uA|200mA-2A=250ppm+40uA|2A-20A=600ppm+2mA|

DC Voltage: 0pV-20mV=100ppm+4uV|20mV-200mV=30ppm+6uV|200mV-2V=15ppm+20uV|2V-20V=15ppm+150uV|20V-200V=30ppm+6mV|200V-1.05kV=50ppm+30mV|

Resistance: 0pR-100Ω=0.01%+7mΩ|100Ω-1kΩ=0.01%+5mΩ|1kΩ-10kΩ=0.02%+20mΩ|10kΩ-100kΩ=0.01%+1Ω|100kΩ-1MΩ=0.01%+10Ω|1MΩ-10MΩ=0.02%+100mΩ|10MΩ-120MΩ=0.1%+1kΩ|

5075 Digital Multimeter

1099C4

39803

19 May 2009

18 May 2010

AC Current: 0pA-200uA=0.07%+300nA|200uA-2mA=0.05%+300nA|2mA-20mA=0.05%+3uA|20mA-200mA=0.05%+30uA|200mA-2A=0.1%+0.5mA|2A-20A=0.2%+5mA|

AC Voltage: 1mV-20mV=0.05%+250uV|20mV-200mV=0.04%+150uV (45Hz-10kHz)|200mV-2V=0.03%+250uV (45Hz-10kHz)|2V-20V=0.03%+3mV (45Hz-10kHz)|20V-200V=0.06%+20mV|200V-1.05kV=0.08%+90mV|

DC Current: 0pA-200uA=150ppm+15nA|200uA-2mA=100ppm+40nA|2mA-20mA=80ppm+200nA|20mA-200mA=80ppm+3uA|200mA-2A=250ppm+40uA|2A-20A=600ppm+2mA|

DC Voltage: 0pV-20mV=100ppm+4uV|20mV-200mV=30ppm+6uV|200mV-2V=15ppm+20uV|2V-20V=15ppm+150uV|20V-200V=30ppm+6mV|200V-1.05kV=50ppm+30mV|

Resistance: 0pR-100Ω=0.01%+7mΩ|100Ω-1kΩ=0.01%+5mΩ|1kΩ-10kΩ=0.02%+20mΩ|10kΩ-100kΩ=0.01%+1Ω|100kΩ-1MΩ=0.01%+10Ω|1MΩ-10MΩ=0.02%+100mΩ|10MΩ-120MΩ=0.1%+1kΩ|

Calibrated by: Robert Martins

Date of Calibration: 20 May 2009

Calibration Due: 19 May 2010

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Test Name	Rqd Value	Actual Value	Allowed Error	% of Spec	Pass/Fail
UPPER DISPLAY					
Voltage Measure					
0V DC	0.000V	0.000V	±0.002V	0%	Pass
15V DC	15.000V	14.997V	±0.005V	-60%	Pass
20V DC	20.000V	19.997V	±0.006V	-50%	Pass
30V DC	30.000V	29.997V	±0.008V	-38%	Pass
mA Measure					
4mA	4.000mA	4.000mA	±0.003mA	0%	Pass
12mA	12.000mA	11.999mA	±0.005mA	-20%	Pass
24mA	24.000mA	23.994mA	±0.007mA	-86%	Pass
LOWER DISPLAY					
mV/TC Measure					
0mV DC	0.00mV	0.01mV	±0.02mV	50%	Pass
45mV DC	45.00mV	45.00mV	±0.03mV	0%	Pass
90mV DC	90.00mV	89.99mV	±0.04mV	-25%	Pass
Voltage Measure					
0V DC	0.000V	0.000V	±0.002V	0%	Pass
10V DC	10.000V	9.999V	±0.004V	-25%	Pass
20V DC	20.000V	19.998V	±0.006V	-33%	Pass
Frequency Measure					
10kHz	10.00kHz	10.00kHz	±0.02kHz	0%	Pass
mA Measure					
4mA	4.000mA	4.000mA	±0.003mA	0%	Pass
12mA	12.000mA	12.000mA	±0.005mA	0%	Pass
24mA	24.000mA	23.997mA	±0.007mA	-43%	Pass
Thermocouple Measure					
CJC Value	25.00°C	23.40°C	±5°C	-32%	Pass
0°C	0.00°C	-0.20°C	±0.7°C	-29%	Pass
Resistance 4 Wire Measure					
15Ω	15.00Ω	15.00Ω	±0.1Ω	0%	Pass
350Ω	350.00Ω	349.90Ω	±0.1Ω	-100%	Marginal
500Ω	500.0Ω	500.0Ω	±0.5Ω	0%	Pass
1500Ω	1500.0Ω	1499.8Ω	±0.5Ω	-40%	Pass
3200Ω	3200.0Ω	3198.7Ω	±1Ω	-130%	Fail
Resistance/RTD 3 Wire Measure					
350Ω	350.00Ω	350.02Ω	±0.1Ω	20%	Pass

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Test Name	Rqd Value	Actual Value	Allowed Error	% of Spec	Pass/Fail
Voltage Source					
0V	0.0000V	0.0000V	±0.002V	1%	Pass
5V	5.0000V	5.0001V	±0.003V	5%	Pass
10V	10.0000V	10.0005V	±0.004V	12%	Pass
mV Source					
0mV	0.000mV	0.002mV	±0.02mV	10%	Pass
45mV	45.000mV	44.996mV	±0.03mV	-14%	Pass
100mV	100.000mV	99.997mV	±0.04mV	-8%	Pass
Frequency Source					
10kHz	10.0000kHz	10.0000kHz	±0.025kHz	0%	Pass
mA Source					
4mA	4.0000mA	4.0004mA	±0.0028mA	13%	Pass
12mA	12.0000mA	11.9996mA	±0.0044mA	-9%	Pass
24mA	24.0000mA	23.9989mA	±0.0068mA	-16%	Pass
Ohms Source					
15Ω	15.0Ω	15.0Ω	±0.1Ω	15%	Pass
360Ω	360.0Ω	360.0Ω	±0.1Ω	23%	Pass
500Ω	500.0Ω	500.2Ω	±0.5Ω	30%	Pass
Thermocouple Source					
Cold Junction Value	-25.00°C	-23.83°C	±5°C	-23%	Pass
0°C	0.00°C	0.12°C	±0.7°C	17%	Pass
180°C	180.00°C	180.19°C	±0.7°C	28%	Pass
-180°C	-180.00°C	-179.46°C	±0.7°C	-77%	Pass

Comments