

# CERTIFICATE OF CALIBRATION

Issued by: RS Components Ltd

Date Issued: 26 Jan 2017

Certificate No. 1468033



## RS Calibration

Calibration and Repair Service

DPN 175, Lammas Rd,  
Weldon Industrial Est  
Corby, Northants, NN17 9RS

Tel: 01536 405545

Fax: 01536 401590

Page 1 of 3 Pages

A handwritten signature in black ink, appearing to read 'Alan Goodley'.

Alan Goodley

Client	MED-LAB LIMITED DERBY DERBYSHIRE DE1 2PU
Instrument	Fluke 73 Digital Multimeter
Serial No.	78640328
Client Reference	N/A
Procedure ID.	284.2109 Rev. P2
Date Received	25 Jan 2017
Date of Calibration	26 Jan 2017

### Remarks

This certificate reports recorded values for the instrument 'As Received'.

### Uncertainties

The reported expanded uncertainties are based on a standard uncertainty multiplied by a coverage factor  $k = 2$ , providing a level of confidence of approximately 95%. The uncertainty evaluation has been carried out in accordance with UKAS requirements.



RS Components takes its environmental responsibilities very seriously and as such has printed this double sided document in black and white, on paper from sustainable sources.

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.

# CERTIFICATE OF CALIBRATION

UKAS Accredited Calibration Laboratory No. 0310



Calibration and Repair Service

Certificate No.

1468033

Page 2 of 3 Pages

## Environment

The ambient temperature and relative humidity throughout the calibration were  $(20 \pm 2) ^\circ\text{C}$  and  $(40 \pm 20) \%RH$  respectively.

## Method

Prior to the calibration the instrument was held within the laboratory for a period of not less than 30 minutes.

The instrument was calibrated by applying nominal values to the input terminals and recording the displayed values in the tables below.

Function	Range	Applied Value		UUT Display	Measurement Uncertainties
<u>DC Voltage</u>	320 mV	300 mV		300.2 mV	$\pm (0.04\% + 1 \text{ LSD})$
	3.2 V	3 V		3.002 V	$\pm (0.04\% + 1 \text{ LSD})$
		- 3 V		-3.002 V	$\pm (0.04\% + 1 \text{ LSD})$
		10 V		10.01 V	$\pm (0.12\% + 1 \text{ LSD})$
	32 V	20 V		20.02 V	$\pm (0.06\% + 1 \text{ LSD})$
		30 V		30.03 V	$\pm (0.04\% + 1 \text{ LSD})$
		300 V		300.3 V	$\pm (0.04\% + 1 \text{ LSD})$
320 V	300 V		300.3 V	$\pm (0.04\% + 1 \text{ LSD})$	
600 V	590 V		590 V	$\pm (0.20\% + 1 \text{ LSD})$	
<u>AC Voltage</u>	3.2 V	3 V	50 Hz	3.000 V	$\pm (0.04\% + 1 \text{ LSD})$
	32 V	30 V	50 Hz	30.01 V	$\pm (0.05\% + 1 \text{ LSD})$
	320 V	300 V	50 Hz	300.2 V	$\pm (0.05\% + 1 \text{ LSD})$
		300 V	500 Hz	300.2 V	$\pm (0.05\% + 1 \text{ LSD})$
	600 V	590 V	50 Hz	590 V	$\pm (0.20\% + 1 \text{ LSD})$
<u>DC Current</u>	32 mA	30 mA		29.94 mA	$\pm (0.04\% + 1 \text{ LSD})$
	320 mA	250 mA		249.9 mA	$\pm (0.05\% + 1 \text{ LSD})$
	10 A	2 A		2.00 A	$\pm (0.58\% + 1 \text{ LSD})$
<u>AC Current</u>	32 mA	30 mA	50 Hz	29.95 mA	$\pm (0.09\% + 1 \text{ LSD})$
	320 mA	250 mA	50 Hz	250.0 mA	$\pm (0.12\% + 1 \text{ LSD})$
	10 A	2 A	50 Hz	1.99 A	$\pm (0.59\% + 1 \text{ LSD})$
<u>Resistance</u>	320 $\Omega$	100 $\Omega$		99.9 $\Omega$	$\pm (0.12\% + 1 \text{ LSD})$
	3 200 $\Omega$	1 000 $\Omega$		1 000 $\Omega$	$\pm (0.12\% + 1 \text{ LSD})$
	32 k $\Omega$	10 k $\Omega$		10.00 k $\Omega$	$\pm (0.12\% + 1 \text{ LSD})$
	320 k $\Omega$	100 k $\Omega$		100.0 k $\Omega$	$\pm (0.12\% + 1 \text{ LSD})$
	3.2 M $\Omega$	1 M $\Omega$		1.000 M $\Omega$	$\pm (0.12\% + 1 \text{ LSD})$
	32 M $\Omega$	10 M $\Omega$		10.02 M $\Omega$	$\pm (0.12\% + 1 \text{ LSD})$

END OF CALIBRATION

CALIBRATED BY :- AAG

# CERTIFICATE OF CALIBRATION

UKAS Accredited Calibration Laboratory No. 0310

 **Calibration**

Calibration and Repair Service

Certificate No.

1468033

Page 3 of 3 Pages

## Compliance to Specification

The specification published by the manufacturer and found in the instrument's handbook has been used to determine performance at the measured points.

## Reported values not annotated.

The instrument complies with the stated specification, due allowance having been made for the uncertainty of measurement which carries no implication regarding the long term stability of the instrument.