

# CERTIFICATE OF CALIBRATION

Issued By Transmille Ltd.

Certificate Number EXAMPLE

Date of Issue 30 January 2017



Approved Signatory

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**Customer :** TRANSMILLE LTD.  
UNIT 4 SELECT BUSINESS CENTRE, LODGE ROAD  
STAPLEHURST KENT. TN12 0QW

Date Received : 13 January 2017

<b>Instrument :</b>	System ID :	T00008328	Job Number :	63935
	Description :	Programable Resistance Box	Ref. Number :	
	Manufacturer :	Transmille	Site :	
	Model Number :	2090	Location :	
	Serial Number :	EXAMPLE		
	Procedure Version :	3.10/N		

## Environmental Conditions

Temperature :	20°C +/- 1°C	Mains Voltage :	230V +/- 12V
Relative Humidity :	40% +/- 20%	Mains Frequency :	50Hz +/- 1Hz

## Comments

Instrument was allowed to stabilise for at least 12 hours before calibration.  
Box residual resistance subtracted from results.  
4-Wire connection was used for all measurements.

## Calibration Information

The instrument was calibrated against laboratory standards whose values are traceable to recognised National Standards. The uncertainty limits quoted refer to the measured values only, with no account being taken of the instruments ability to maintain its calibration.

The reported expanded uncertainty is 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.

Calibrated By : M. Nelson

Date of Calibration : 30 January 2017

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. 0324  
**AFTER ADJUSTMENT RESULTS**

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EXAMPLE

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Test Title	Applied Value	Reading	Uncertainties
Residual Resistance	0.0m $\Omega$	129.2m $\Omega$	140u $\Omega$
<b>0.1<math>\Omega</math> Range</b>			
0.1 $\Omega$	0.100 $\Omega$	0.098 $\Omega$	1.2m $\Omega$
0.2 $\Omega$	0.200 $\Omega$	0.203 $\Omega$	1.2m $\Omega$
0.3 $\Omega$	0.300 $\Omega$	0.295 $\Omega$	1.2m $\Omega$
0.4 $\Omega$	0.400 $\Omega$	0.401 $\Omega$	1.2m $\Omega$
0.5 $\Omega$	0.500 $\Omega$	0.508 $\Omega$	1.2m $\Omega$
0.6 $\Omega$	0.600 $\Omega$	0.605 $\Omega$	1.2m $\Omega$
0.7 $\Omega$	0.700 $\Omega$	0.710 $\Omega$	1.2m $\Omega$
0.8 $\Omega$	0.800 $\Omega$	0.803 $\Omega$	1.2m $\Omega$
0.9 $\Omega$	0.900 $\Omega$	0.902 $\Omega$	1.2m $\Omega$
<b>1<math>\Omega</math> Range</b>			
1 $\Omega$	1.000 $\Omega$	1.008 $\Omega$	1.2m $\Omega$
2 $\Omega$	2.000 $\Omega$	2.020 $\Omega$	1.2m $\Omega$
3 $\Omega$	3.000 $\Omega$	3.015 $\Omega$	1.2m $\Omega$
4 $\Omega$	4.000 $\Omega$	4.045 $\Omega$	1.2m $\Omega$
5 $\Omega$	5.000 $\Omega$	5.005 $\Omega$	1.2m $\Omega$
6 $\Omega$	6.000 $\Omega$	6.012 $\Omega$	1.2m $\Omega$
7 $\Omega$	7.000 $\Omega$	7.025 $\Omega$	1.2m $\Omega$
8 $\Omega$	8.000 $\Omega$	8.019 $\Omega$	1.2m $\Omega$
9 $\Omega$	9.000 $\Omega$	9.043 $\Omega$	1.2m $\Omega$
<b>10<math>\Omega</math> Range</b>			
10 $\Omega$	10.000 $\Omega$	9.997 $\Omega$	1.2m $\Omega$
20 $\Omega$	20.000 $\Omega$	20.008 $\Omega$	1.4m $\Omega$
30 $\Omega$	30.000 $\Omega$	30.008 $\Omega$	1.5m $\Omega$
40 $\Omega$	40.000 $\Omega$	40.017 $\Omega$	1.6m $\Omega$
50 $\Omega$	50.000 $\Omega$	50.012 $\Omega$	1.7m $\Omega$
60 $\Omega$	60.000 $\Omega$	60.009 $\Omega$	1.8m $\Omega$
70 $\Omega$	70.000 $\Omega$	70.019 $\Omega$	1.9m $\Omega$
80 $\Omega$	80.000 $\Omega$	80.019 $\Omega$	2.1m $\Omega$
90 $\Omega$	90.000 $\Omega$	90.016 $\Omega$	2.2m $\Omega$
<b>100<math>\Omega</math> Range</b>			
100 $\Omega$	100.000 $\Omega$	100.031 $\Omega$	2.3m $\Omega$
200 $\Omega$	200.000 $\Omega$	200.026 $\Omega$	3.1m $\Omega$
300 $\Omega$	300.000 $\Omega$	300.015 $\Omega$	4.3m $\Omega$
400 $\Omega$	400.000 $\Omega$	400.017 $\Omega$	5.4m $\Omega$
500 $\Omega$	500.000 $\Omega$	500.037 $\Omega$	6.6m $\Omega$
600 $\Omega$	600.000 $\Omega$	600.034 $\Omega$	7.7m $\Omega$
700 $\Omega$	700.000 $\Omega$	700.026 $\Omega$	8.9m $\Omega$
800 $\Omega$	800.000 $\Omega$	800.016 $\Omega$	10m $\Omega$
900 $\Omega$	900.000 $\Omega$	899.998 $\Omega$	11m $\Omega$

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Test Title	Applied Value	Reading	Uncertainties
<b>1k<math>\Omega</math> Range</b>			
1k $\Omega$	1.000 00k $\Omega$	1.000 09k $\Omega$	17m $\Omega$
2k $\Omega$	2.000 00k $\Omega$	2.000 11k $\Omega$	31m $\Omega$
3k $\Omega$	3.000 00k $\Omega$	3.000 18k $\Omega$	42m $\Omega$
4k $\Omega$	4.000 00k $\Omega$	4.000 09k $\Omega$	53m $\Omega$
5k $\Omega$	5.000 00k $\Omega$	5.000 07k $\Omega$	65m $\Omega$
6k $\Omega$	6.000 00k $\Omega$	6.000 15k $\Omega$	76m $\Omega$
7k $\Omega$	7.000 00k $\Omega$	7.000 17k $\Omega$	88m $\Omega$
8k $\Omega$	8.000 00k $\Omega$	8.000 24k $\Omega$	99m $\Omega$
9k $\Omega$	9.000 00k $\Omega$	9.000 14k $\Omega$	110m $\Omega$
<b>10k<math>\Omega</math> Range</b>			
10k $\Omega$	10.000 00k $\Omega$	9.999 96k $\Omega$	120m $\Omega$
20k $\Omega$	20.000 00k $\Omega$	19.999 36k $\Omega$	320m $\Omega$
30k $\Omega$	30.000 00k $\Omega$	29.999 26k $\Omega$	460m $\Omega$
40k $\Omega$	40.000 00k $\Omega$	39.999 29k $\Omega$	590m $\Omega$
50k $\Omega$	50.000 00k $\Omega$	50.001 18k $\Omega$	720m $\Omega$
60k $\Omega$	60.000 00k $\Omega$	60.001 07k $\Omega$	870m $\Omega$
70k $\Omega$	70.000 00k $\Omega$	70.000 45k $\Omega$	1 $\Omega$
80k $\Omega$	80.000 00k $\Omega$	80.000 33k $\Omega$	1.1 $\Omega$
90k $\Omega$	90.000 00k $\Omega$	90.000 32k $\Omega$	1.3 $\Omega$

**Note 1:**

*The Tables above show the measured change in DC Resistance when the decade specified was moved from zero to the position indicated with all other digits remaining at zero. The measured DC Resistance with all digits set to zero is recorded as residual resistance on this certificate and is not included in the results.*

**End of results**