CERTIFICATE OF CALIBRATION

Issued By Transmille Ltd. **Certificate Number** 34354

Date of Issue 20 September 2017

0324

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Approved Signatory

☒ G.A. Shapland ☐ M.A. Bailey ☐ S.A. Hawkins ☐ J.J. Bailey

Customer : PT SENTRAL TEHNOLOGI MANAGEMEN
CIKARANG SQUARE, BLOK B NO 11
KABUPATEN BEKASI - JAWA BARAT INDONESIA

Date Received : 20 September 2017

Instrument :

System ID :	T00010026	Job Number :	66988
Description :	Multi Function Workstation	Ref. Number :	
Manufacturer :	Transmille	Site :	
Model Number :	EA015	Location :	
Serial Number :	112166I17		
Procedure Version :	5.01/N		

Environmental Conditions

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

Comments

Instrument was allowed to stabilise for at least 12 hours before calibration.
Thermocouple voltages converted to temperature using BS tables.
Reference temperature of 0'C used for the thermocouple CJC.

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 : E. Bailey **Date of Calibration :** 20 September 2017

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Test Title	Applied Value	Reading	Uncertainties
Set CJC	---	Pass	
Temperature Simulation			
-140°C Type K	-4.6690mV	-4.6689mV	1.4uV
0°C Type K	0.000 0mV	-0.0001mV	1.4uV
200°C Type K	8.138 0mV	8.137 4mV	1.4uV
700°C Type K	29.129 0mV	29.128 6mV	1.5uV
1340°C Type K	53.795 0mV	53.795 1mV	1.7uV
-180°C Type J	-7.4030mV	-7.4031mV	1.4uV
400°C Type J	21.848 0mV	21.847 5mV	1.5uV
750°C Type J	42.281 0mV	42.280 8mV	1.6uV
-250°C Type T	-6.1800mV	-6.1801mV	1.4uV
400°C Type T	20.872 0mV	20.871 5mV	1.5uV
1700°C Type R	20.222 0mV	20.221 3mV	1.5uV
1700°C Type S	17.947 0mV	17.946 4mV	1.5uV
-270°C Type N	-4.3450mV	-4.3452mV	1.4uV
1300°C Type N	47.513 0mV	47.512 9mV	1.6uV
600°C Type B	1.792mV	1.791 7mV	1.4uV
1820°C Type B	13.820 0mV	13.819 4mV	1.4uV
0°C Type E	0.000 0mV	-0.0001mV	1.4uV
400°C Type E	28.946 0mV	28.945 5mV	1.5uV
800°C Type E	61.017mV	61.017mV	2.7uV
Tachometer Function			
240 RPM	240RPM	240RPM	1RPM
19998 RPM	19 998RPM	19 998RPM	1RPM
Insulation Resistance			
10kΩ	10.000kΩ	9.996kΩ	1.3Ω
20kΩ	20.000kΩ	20.008kΩ	1.6Ω
40kΩ	40.000kΩ	40.009kΩ	1.8Ω
50kΩ	50.000kΩ	49.997kΩ	1.9Ω
60kΩ	60.000kΩ	59.998kΩ	1.9Ω
100kΩ	100.000kΩ	100.033kΩ	2.3Ω
200kΩ	200.00kΩ	200.02kΩ	13Ω
400kΩ	400.00kΩ	400.07kΩ	15Ω
500kΩ	500.00kΩ	500.10kΩ	16Ω
600kΩ	600.00kΩ	600.00kΩ	17Ω
1MΩ	1.000 0MΩ	1.000 5MΩ	120Ω
2MΩ	2.000 0MΩ	2.000 8MΩ	260Ω
4MΩ	4.000 0MΩ	4.001 8MΩ	370Ω
5MΩ	5.000 0MΩ	5.002 3MΩ	420Ω
6MΩ	6.000 0MΩ	5.990 7MΩ	480Ω
10MΩ	10.000MΩ	9.997MΩ	1.3kΩ
20MΩ	20.000MΩ	19.967MΩ	13kΩ
40MΩ	40.000MΩ	39.959MΩ	24kΩ

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50MΩ	50.000MΩ	49.957MΩ	30kΩ
60MΩ	60.000MΩ	59.995MΩ	36kΩ
100MΩ	100.00MΩ	99.71MΩ	60kΩ
200MΩ	200.00MΩ	200.11MΩ	1.2MΩ
400MΩ	400.00MΩ	400.44MΩ	2.3MΩ
500MΩ	500.00MΩ	500.15MΩ	2.9MΩ
600MΩ	600.00MΩ	600.12MΩ	3.5MΩ
1000MΩ	1 000.0MΩ	999.0MΩ	5.8MΩ
Insulation Test Voltage Measurement			
50V	50.00V	50.01V	0.01V
100V	100.00V	100.02V	0.01V
250V	250.0V	250.1V	0.1V
500V	500.0V	500.1V	0.1V
1000V	1 000.0V	1 000.2V	0.1V
Continuity Resistance			
1Ω	1.000Ω	1.001Ω	2.1mΩ
10Ω	10.000Ω	9.995Ω	2.1mΩ
19Ω	19.00Ω	18.99Ω	21mΩ
100Ω	100.00Ω	100.01Ω	21mΩ
190Ω	190.0Ω	190.0Ω	210mΩ
1kΩ	1.000 00kΩ	0.999 99kΩ	24mΩ
Continuity current measurement			
Current into 1Ω	100.0mA	100.0mA	0.1mA
Voltage and current measurement			
30mA Range	30.000mA	30.000mA	1uA
30mA Range	-30.000mA	-29.998mA	1uA
30mA Range	10.000mA	10.000mA	1uA
100mV Range	100.00mV	99.99mV	10uV
100mV Range	-100.00mV	-100.00mV	10uV
1V Range	0.000 0V	0.000 0V	100uV
1V Range	1.000 0V	1.000 3V	100uV
1V Range	-1.0000V	-0.9998V	100uV
1V Range	0.800 0V	0.800 1V	100uV
1V Range	0.600 0V	0.600 0V	100uV
1V Range	0.400 0V	0.400 0V	100uV
1V Range	0.200 0V	0.200 1V	100uV
30V Range	30.000V	29.999V	1mV
30V Range	20.000V	20.000V	1mV
30V Range	10.000V	10.000V	1mV
2/10/50 Clamp Coil measured as reading compaired with single conductor			
2 Turn Coil @ 56Hz	20.00A	20.00A	14mA
10 Turn Coil @ 56Hz	20.00A	20.00A	14mA
50 Turn Coil @ 56Hz	20.00A	20.00A	14mA

Thermocouple Tables used for temperature to volts Conversion
EN60584-1 : 1996
Equivalent to EN60584-1 : 1995 & IEC60584-1 : 1995

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Replacing document BS4937 Parts 1-8

End of results