Certificate of Calibration

Certificate Number

240821 - 03870 - 9999999

REV: V1.00 Order #:

Printed on: 08/21/2024

Instrument Identification

Company: 艾科尼斯股份有限公司
Address: 新北市汐止區大同路一段237號12樓-1

Model: **03870**
Serial: **9999999** Customer Instrument **-9999999**
Technician: **Dennis Cheng**

Received Date: **Aug, 21 / 2024**
Calibration Date: **Aug, 21 / 2024**
Issue Date: **Aug, 21 / 2024**
Temperature: **(23+/- 5) DEG C**
Humidity: **(50+/-10) %RH**
Test Procedure #: ***802-5001***
Calibration Location:
Ikonix

Measurements reported in this certificate are traceable to the International System of Units (SI) via National Metrology Institutes (NMIs) that are signatories to the CIPM Mutual Recognition Arrangement (MRA) such as US NIST, UK NPL, Germany's PTB and the like. The results reported herein relate only to the item calibrated. Measurement uncertainties have been estimated in accordance with the Guide to the expression of Uncertainty in Measurement (GUM), JCGM 100:2008. A coverage factor of k=2 has been applied to the standard uncertainty to express the expanded uncertainty at approximately 95 % confidence level.

Ikonix does not provide any judgement of in-/out-of- tolerance on its certificates. This is due to the requirement that such decisions must be made after taking into consideration the associated measurement uncertainty in accordance with an agreed decision rule. In the absence of such a decision rule, Ikonix has elected to report the measurement with the associated uncertainty per incidence. This allows the user to calculate acceptance limits based on whatever decision rule they choose considering the risk level they deem fit for their purpose. This certificate shall not be reproduced except in full, without written permission of Ikonix.

Remark **As received: the instrument was found in need of repair.**
As left: repaired and calibrated to manufacturer's specifications. See the attached datasheet(s)

Calibration Standards Used

Inst ID#	Model No	Model Description	Cal Date	Due Date	Traceability to SI
IKT001	HT-315	TEMPERATURE & HUMIDITY DATA LOGGER	2024/6/11	2025/6/10	OMEGA , PRT Temperature , PT100 , E-LAB-269 rotronic , Humidity and Temperature , HYGROPALM , 71908986
IKT002	VD15	HIGH VOLTAGE DIVIDER	2023/12/14	2024/12/13	Fluke , 8846A , UL(TAF1990) , ECT-Q23080802-01 PHENIX , KVM300 , NML(N0688) , E220097A PHENIX , KVM300 , TMCC(TAF3051) , C-20230715-01-04-A
IKT003	34465A	6.5 DIGIT MULTIMETER	2024/6/7	2025/6/6	Agilent , Digital Multimeter , 3458A , MY45045712 FLUKE , CALIBRATOR , 5500A , 9375028
IKT004	CTGB4-2	ATS EVOLUTION LOAD REVB	2024/1/24	2025/1/23	FLUKE , 52120A , 13052917-001 FLUKE , 8508A , 13040120-001 FLUKE , 5700A , 13031403-003 IET , HARS-X-8-0.01 , C3-11534562 IET , HRRS-B-6-1M , C1-1153446

Certified

Approved by:

Datasheets

Before & After Data

Certificate: 240821 - 03870 - 9999999

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Temperature: **(23+/- 5) DEG C**
Humidity: **(50+/-10) %RH**
Issue Date: **Aug, 21 / 2024**

Model: **03870** Serial: **9999999**

N/A stands for Not Applicable and asterisk (*) refers to unaccredited calibrations.

MODE / TESTED SETTING	Target Value	Before	After	Rdg error % Before	Rdg error % After	Lower Limit	Upper Limit	UUT SPECS %Rdg	UUT SPECS +(Value)	Measurement uncertainty
Ground Cont Resistance (Ohm)		**UUT METER READING**	**STANDARD READING**	**STANDARD READING**						
0.50 | 1.50										
	0.5	0.4		0.430	N/A	0.03	0.412	0.478	3	0.02	16 mΩ
	1.5	1.5		1.500	N/A	0	1.435	1.565	3	0.02	20 mΩ
Voltage Setting AC RMS (KV) @60hz		**UUT METER READING**	**STANDARD READING**	**STANDARD READING**						
0.10 | 5.00										
	0.1	0.1		0.100	N/A	0	0.093	0.107	2	0.005	*
	0.25	0.25		0.251	N/A	0	0.240	0.260	2	0.005	*
	0.5	0.5		0.503	N/A	0.01	0.485	0.515	2	0.005	*
	1	1		1.009	N/A	0.01	0.975	1.025	2	0.005	*
	3	3		3.000	N/A	0	2.935	3.065	2	0.005	*
	5	5		5.001	N/A	0	4.895	5.105	2	0.005	*
VOLTAGE Metering IR (V)		**UUT METER READING**	**STANDARD READING**	**STANDARD READING**						
100.00 | 1000.00										
	100	104		104.0	N/A	0	97.440	110.560	1.5	5	1.2 V
	250	254		253.0	N/A	0	245.190	262.810	1.5	5	1.2 V
	500	504		503.5	N/A	0	491.440	516.560	1.5	5	1.2 V
	1000	1002		1001.4	N/A	0	981.970	1022.030	1.5	5	1.2 V
Voltage Setting DC (KV)		**UUT METER READING**	**STANDARD READING**	**STANDARD READING**						
0.10 | 6.00										
	0.1	0.1		0.101	N/A	0.01	0.093	0.107	2	0.005	*
	0.25	0.25		0.250	N/A	0	0.240	0.260	2	0.005	*
	0.5	0.5		0.501	N/A	0	0.485	0.515	2	0.005	*
	2	2		1.999	N/A	0	1.955	2.045	2	0.005	*
	4	4		3.999	N/A	0	3.915	4.085	2	0.005	*
	6	6		5.996	N/A	0	5.875	6.125	2	0.005	*
Leakage Current Metering AC (mA) @60hz		**UUT METER READING**	**STANDARD READING**	**STANDARD READING**						
0.10 | 95.00										
	0.5	0.513		0.5105	N/A	0	0.501	0.525	2	0.002	0.62 µA
	8	8.02		8.019	N/A	0	7.840	8.200	2	0.02	7.5 µA
	11.5	11.53		11.515	N/A	0	11.279	11.781	2	0.02	16 µA
	19.5	19.56		19.520	N/A	0	19.149	19.971	2	0.02	27 µA
Leakage Current Metering DC (µA)		**UUT METER READING**	**STANDARD READING**	**STANDARD READING**						
0.2 | 19000.00										
1 MG LD	100	99.4		99.64	N/A	0	97.212	101.588	2	0.2	4.1 nA
Leakage Current Metering DC (mA)		**UUT METER READING**	**STANDARD READING**	**STANDARD READING**						
0.5 | 7.0										
	0.5	0.502		0.5038	N/A	0	0.490	0.514	2	0.002	29 nA
	1	1.012		1.0153	N/A	0	0.990	1.034	2	0.002	54 nA
	3	2.943		2.9462	N/A	0	2.882	3.004	2	0.002	0.79 µA
	7	6.98		7.0000	N/A	0	6.820	7.140	2	0.02	1.8 µA
Insulation Resistance (MegaOhm)		**UUT METER READING**	**STANDARD READING**	**STANDARD READING**						
2.00 | 45000.00										
@100 Volts	2	1.99		1.9840	N/A	0	1.829	2.151	8	0.002	2.4 KΩ
@50 Volts	50	49.84		49.868	N/A	0	45.833	53.847	8	0.02	0.60 MΩ
@1000 Volts	50	50.2		49.868	N/A	0.01	49.176	51.224	2	0.02	0.60 MΩ

Datasheets

Before & After Data

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MODE / TESTED SETTING	Target Value			Before	After	Rdg error % Before | After		Lower Limit	Upper Limit	UUT SPECS %Rdg	UUT SPECS +(Value)	Measurement uncertainty
@50 Volts	500	503		495.74	N/A	0.01		460.760	545.240	8	2	6.0 MΩ
@500 Volts	500	498.7		495.7	N/A	0.01		488.526	508.874	2	0.2	6.0 MΩ
@500 Volts	1000	1000		999.0	N/A	0		948.000	1052.000	5	2	12 MΩ
@2000 Volts	9250	9002		9180.0	N/A	0.02		8549.900	9454.100	5	2	*
@1000 Volts	20000	19994		19880.0	N/A	0.01		16992.900	22995.100	15	2	*
@1000 Volts	45000	45158		43928.0	N/A	0.03		38382.300	51933.700	15	2	*

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