

校准证书
Calibration Certificate

证书编号

Z20240-G130326

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客户名称

泰瑞通(厦门)电子有限公司

Client Name

地址

福建省厦门市湖里区兴隆路606号之三, 2层

Address

仪器名称

数字万用表

Description

型号/规格

9705

制造厂商

VICTOR

Model/Type

Manufacturer

出厂编号

099012704

管理编号

TRYQ-0091-2109

Serial Number

Management No.

接收日期

2024 年 07 月 10 日

Date of Receipt

Year Month Day

校准日期

2024 年 07 月 10 日

Calibration Date

Year Month Day

建议下次校准日期

2025 年 07 月 09 日

Due Date

Year Month Day

发布日期

2024 年 07 月 10 日

Issue Date

Year Month Day



发证单位(专用章)

Issued by (stamp)

批准:

Approved by

廖桃兴

核验:

Inspected by

陈小曼

校准:

Calibrated by

白美莹

地址: 广东省深圳市龙岗区锦龙大道2号

ADD: No. 2, Jinlong Avenue, Longgang District, Shenzhen, Guangdong, China

电话 (TEL): 0755-84815081

邮编 (Post Code): 518116

网址: <http://www.tiansu.org>Email: zskf@tiansu.org

说明

DIRECTIONS

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- 本实验室质量管理体系依据ISO/IEC17025:2017建立。
The laboratory quality management systems document is established according to ISO/IEC17025:2017.
- 本证书中的数据均可溯源至国际单位制（SI）单位和/或社会公用计量标准。
The data in this certificate can be traced to International System of Units (SI) and/or social public measurement standards.
- 本证书未经签章、数据涂改、或分离使用均无效。未经我司书面批准，不得部分复制此证书。校准结果仅对受测仪器当时之情况负责。
The Certificate is invalid when no stamp sealed on, data alteration or separate use. Without our written approval, the certification should not be partially duplicated. The calibration results are only responsible for calibration conditions of the instrument at the time.
- 本证书具有唯一性，带有相同证书编号、按页码顺序的组成页为校准证书，我司对本证书的内容拥有最终解释权。
The certificate is unique, and made up of pages with same certificate number and serial order, and reserves final explanation right of the certificate contents.
- 证书中最大允许误差、判定结果仅供参考，其中“P”代表“合格”，“F”代表“不合格”。
MPE & judgement result in the datasheet is only for reference, "P" is "Pass" "F" is "Fail".
- 若被校仪器属于强检范畴，按照法规要求，不能替代检定证书。
If the instrument belongs to compulsory test field, the corresponding calibration can not replace the verification according to the compulsory regulations.
- 本次校准所依据的技术文件(Reference documents for the calibration):
JJF1587-2016 数字多用表校准规范
- 校准的地点及环境条件(Place and environmental condition in the calibration):

校准地点:

Cal. Place:

委托方现场【2楼会议室】

温度:

Temperature:

23.8

℃

相对湿度:

Relative Humidity:

43

%

- 校准所用的主要计量标准器具(Main Standards of Measurement Used in the Calibration):

名称	设备编号	证书编号	有效期至	溯源机构
Description	Equipment No.	Certificate No.	Due date	Actuator
多功能校准系统	TS-SB-20414	2024041506553014T1	2025-04-14	湖南省计量检测研究院

校准结果

Results of Calibration

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1. 外观及工作性能检查:

(Appearance & Working Performance Check)

符合 (Pass)

2. 直流电压的校准:

DC Voltage Calibration

量程 Range	标准值 Standard Value	示值 Indication	误差 Error	允差 MPE	结论 Pass/Fail
200mV	20.00mV	19.7mV	-0.3mV	±0.4mV	P
	100.00mV	99.7mV	-0.3mV	±0.8mV	P
	190.00mV	190.5mV	+0.5mV	±1.3mV	P
2V	-190.00mV	-189.8mV	+0.2mV	±1.3mV	P
	0.2000V	0.200V	0.000V	±0.004V	P
	1.0000V	1.003V	+0.003V	±0.008V	P
20V	1.9000V	1.894V	-0.006V	±0.013V	P
	-1.9000V	-1.901V	-0.001V	±0.013V	P
	2.000V	1.99V	-0.01V	±0.04V	P
200V	10.000V	10.03V	+0.03V	±0.08V	P
	19.000V	18.94V	-0.06V	±0.13V	P
	-19.000V	-18.95V	+0.05V	±0.13V	P
1000V	20.00V	19.8V	-0.2V	±0.4V	P
	100.00V	100.0V	0.0V	±0.8V	P
	190.00V	190.4V	+0.4V	±1.3V	P
1000V	-190.00V	-190.2V	-0.2V	±1.3V	P
	200.0V	205V	+5V	±12V	P
	500.0V	496V	-4V	±15V	P
1000V	900.0V	906V	+6V	±19V	P
	-900.0V	-892V	+8V	±19V	P

3. 交流电压的校准 (50Hz):

AC Voltage Calibration (50Hz)

量程 Range	标准值 Standard Value	示值 Indication	误差 Error	允差 MPE	结论 Pass/Fail
2V	0.2000V	0.203V	+0.003V	±0.007V	P
	1.0000V	0.994V	-0.006V	±0.013V	P
	1.9000V	1.893V	-0.007V	±0.020V	P

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量程 Range	标准值 Standard Value	示值 Indication	误差 Error	允差 MPE	结论 Pass/Fail
20V	2.000V	1.98V	-0.02V	±0.07V	P
	10.000V	9.99V	-0.01V	±0.13V	P
	19.000V	19.09V	+0.09V	±0.20V	P
200V	20.00V	20.0V	0.0V	±0.7V	P
	100.00V	100.5V	+0.5V	±1.3V	P
200V	190.00V	189.2V	-0.8V	±2.0V	P
	200.0V	199V	-1V	±12V	P
	500.0V	494V	-6V	±16V	P
750V	700.0V	695V	-5V	±18V	P

4. 直流电流的校准:

DC Current Calibration

量程 Range	标准值 Standard Value	示值 Indication	误差 Error	允差 MPE	结论 Pass/Fail
20 μ A	2.000 μ A	2.00 μ A	0.00 μ A	±0.10 μ A	P
	10.000 μ A	10.10 μ A	+0.10 μ A	±0.20 μ A	P
	19.000 μ A	19.01 μ A	+0.01 μ A	±0.31 μ A	P
2mA	-19.000 μ A	-19.05 μ A	-0.05 μ A	±0.31 μ A	P
	0.2000mA	0.199mA	-0.001mA	±0.010mA	P
	1.0000mA	0.990mA	-0.010mA	±0.020mA	P
	1.9000mA	1.913mA	+0.013mA	±0.031mA	P
20mA	-1.9000mA	-1.899mA	+0.001mA	±0.031mA	P
	2.000mA	2.02mA	+0.02mA	±0.10mA	P
	10.000mA	9.99mA	-0.01mA	±0.20mA	P
	19.000mA	19.14mA	+0.14mA	±0.31mA	P
200mA	-19.000mA	-18.95mA	+0.05mA	±0.31mA	P
	20.00mA	20.4mA	+0.4mA	±1.0mA	P
	100.00mA	99.1mA	-0.9mA	±2.0mA	P
	190.00mA	190.4mA	+0.4mA	±3.1mA	P
10A	-190.00mA	-190.2mA	-0.2mA	±3.1mA	P
	2.000A	2.02A	+0.02A	±0.13A	P
	5.000A	5.06A	+0.06A	±0.18A	P
9.000A	8.91A	-0.09A	±0.24A	P	
	-9.000A	-8.99A	+0.01A	±0.24A	P

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5. 交流电流的校准(50Hz):

AC Current Calibration(50Hz)

量程 Range	标准值 Standard Value	示值 Indication	误差 Error	允差 MPE	结论 Pass/Fail
20mA	2.000mA	2.04mA	+0.04mA	±0.19mA	P
	10.000mA	9.97mA	-0.03mA	±0.35mA	P
	19.000mA	18.82mA	-0.18mA	±0.53mA	P
200mA	20.00mA	19.2mA	-0.8mA	±1.9mA	P
	100.00mA	101.3mA	+1.3mA	±3.5mA	P
	190.00mA	192.2mA	+2.2mA	±5.3mA	P
10A	2.000A	1.95A	-0.05A	±0.16A	P
	5.000A	5.09A	+0.09A	±0.25A	P
	9.000A	8.86A	-0.14A	±0.37A	P

6. 电阻的校准:

Resistance Calibration

量程 Range	标准值 Standard Value	示值 Indication	误差 Error	允差 MPE	结论 Pass/Fail
200Ω	100.00Ω	100.4Ω	+0.4Ω	±1.3Ω	P
2kΩ	1.0000kΩ	0.999kΩ	-0.001kΩ	±0.011kΩ	P
20kΩ	10.000kΩ	9.92kΩ	-0.08kΩ	±0.11kΩ	P
200kΩ	100.00kΩ	99.6kΩ	-0.4kΩ	±1.1kΩ	P
2MΩ	1.0000MΩ	1.005MΩ	+0.005MΩ	±0.011MΩ	P
20MΩ	10.000MΩ	10.01MΩ	+0.01MΩ	±0.11MΩ	P

说明:本次测量结果的扩展不确定度为:

(The Expanded Uncertainty of the Measurement Result Is)

直流电压: $U_{rel}=0.15\%$;交流电压(50Hz): $U_{rel}=0.25\%$;直流电流: $U_{rel}=0.25\%$;交流电流(50Hz): $U_{rel}=0.30\%$;电阻: $U_{rel}=0.25\%$ $k=2$

(依据JJF1059.1-2012测量不确定度评定与表示)

(According to JJF1059.1-2012 Evaluation and Expression of Uncertainty in Measurement)

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