



中国认可
国际互认
校准
CALIBRATION
CNAS L10466

校准证书

CALIBRATION CERTIFICATE



证书编号

Certificate No.

ZD202403110093

第 1 页, 共 4 页

Page of

委托方

Client

广东铤电测控技术有限公司

委托方地址

Address

佛山市南海区桂城街道石龙北路105号联东智造园5座10楼

仪器名称

Description

双钳相位伏安表

型号规格

Model/Type

ETCR4000

制造厂

Manufacturer

广东铤电测控技术有限公司

出厂编号

Serial No.

4000240085

管理编号

Asset No.

/

样品接收日期

Date of Receipt

2024-03-11

校准日期

Date of Calibration

2024-03-11

批准人 :

Approved Signatory

苏瑶云

审核 :

Inspected by

巢弘

校准 :

Tested by

张辉

校准专用章
(stamp)



地址 : 广东省深圳市宝安区福永街道白石厦社区东区新开发区4栋203

Add : Room 203, Building 4, New Development Area, East Zone, Baishixia Community, Fuyong Sub-District, Bao'an District, Shenzhen, Guangdong, China

电话 (Tel) : 0755-29888158

邮政编码 (Post Code) : 518103

传真 (Fax) : 0755-29796107



校准说明

DIRECTIONS OF CALIBRATION

证书编号: ZD202403110093

第 2 页, 共 4 页

Certificate No.

Page of

- 1.本实验室出具的数据均可溯源至国家计量基准。
(All data issued by ZD Test are traced to National Primary Standards.)
- 2.本结果仅对当次被测样品有效,如有疑问请在15个工作日反馈。
(The results is ONLY valid for the tested sample,please feedback to us within 15 working days if you have any question.)
- 3.本证书编号具有唯一性,若替换证书,自发出后原证书即可作废。
(Each certificate has a unique number.If replaced the certificate,the original certificate will be invalid once the new certificate number is issued.)
- 4.证书中如有最大允许误差、判定结果,仅供参考,其中“P”代表“Pass”,“F”代表“Fail”。
(In the datasheet,MPE & determination is only for reference,"P"represents"Pass"and"F"represents"Fail".)
- 5.本次校准的技术依据及获认可的能力范围,超出范围的内容未被认可。
(Reference documents and Accredited Scopes for Calibration,Beyond the Scope has not been accredited.):

JJF (新) 11-2018 《双钳相位伏安表电校准规范》

6.本次校准使用的主要测量标准 (Main Standards of Measurement Used in the Calibration.):

名称/型号 Description/Model	编号 Serial No.	证书号 Certificate No.	有效期至 Due Date	技术特征 Technique Character
工频感应分压器	ZDW-D0231	ZS23087511005	2024-07-16	0.001级
数字多用表	ZD-D033	JL2380864891	2024-07-20	DCV:±0.005% ACV:±0.06% DCI:±0.05% ACI:±0.1% R:±0.01% Freq:±0.01%

7.校准地点、环境条件 (Place and environmental conditions of the calibration)

地点 Place	委托方现场	温度 Temperature	22 °C	相对湿度 Relative Humidity	57 %
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8.建议复校时间间隔:

12 个月,送检单位可根据实际情况自主决定。

Suggested calibration interval is

12 month or it can be altered depending on the actual usage of the user.



校准结果

Result of Calibration

证书编号: ZD202403110093

Certificate No.

第 3 页, 共 4 页

Page of

1、外观以及一般性检查: 正常

In view of External and Generality check : Normal

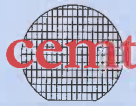
2、交流电压 (AC Voltage) Freq:50Hz

	标准值 Reference (V)	示值 Indication (V)	误差 Error (V)	允许误差 MPE (V)	结论 Conclusion (Pass/Fail)
U1	2	2.00	0.00	± 0.06	P
	10	10.1	0.1	± 0.5	P
	20	20.1	0.1	± 0.6	P
	50	50.2	0.2	± 1.1	P
	100	100.2	0.2	± 1.8	P
	300	301	1	± 8	P
	600	602	2	± 12	P
U2	2	2.00	0.00	± 0.06	P
	10	10.0	0.0	± 0.5	P
	20	20.0	0.0	± 0.6	P
	50	50.2	0.2	± 1.1	P
	100	100.3	0.3	± 1.8	P
	300	302	2	± 8	P
	600	602	2	± 12	P

3、交流电流 (AC Current) Freq:50Hz

	标准值 Reference (mA)	示值 Indication (mA)	误差 Error (mA)	允许误差 MPE (mA)	结论 Conclusion (Pass/Fail)
I1	20	20.1	0.1	± 0.6	P
	100	100.3	0.3	± 1.8	P
	(A)	(A)	(A)	(A)	
	1	1.005	0.005	± 0.018	P
	5	5.08	0.08	± 0.11	P
	10	10.05	0.05	± 0.18	P
I2	(mA)	(mA)	(mA)	(mA)	
	20	20.3	0.3	± 0.6	P
	100	100.8	0.8	± 1.8	P
	(A)	(A)	(A)	(A)	
	1	1.011	0.011	± 0.018	P
	5	5.05	0.05	± 0.11	P
	10	10.11	0.11	± 0.18	P

4、相位 (Phase) U=220V, I=1A, Freq:50Hz



校准结果

Result of Calibration

证书编号: ZD202403110093

第 4 页, 共 4 页

Certificate No.

Page of

	标准值 Reference	示值 Indication	误差 Error	允许误差 MPE	结论 Conclusion (Pass/Fail)
	(°)	(°)	(°)	(°)	
U1U2	30	30	0	± 1.0	P
	60	60	0	± 1.0	P
	120	120.2	0.2	± 1.0	P
	240	240.3	0.3	± 1.0	P
	360	360.2	0.2	± 1.0	P
I1I2	30	30	0	± 1.0	P
	60	60	0	± 1.0	P
	120	120.2	0.2	± 1.0	P
	240	240.3	0.3	± 1.0	P
	360	360.3	0.3	± 1.0	P
U1I1	30	29.8	-0.2	± 1.0	P
	60	59.8	-0.2	± 1.0	P
	120	119.6	-0.4	± 1.0	P
	240	239.8	-0.2	± 1.0	P
	360	359.7	-0.3	± 1.0	P
U2I2	30	30.1	0.1	± 1.0	P
	60	60.2	0.2	± 1.0	P
	120	120	0	± 1.0	P
	240	240.3	0.3	± 1.0	P
	360	360.5	0.5	± 1.0	P

注:测量不确定说明:

Notes : Uncertainty in the Measurement

(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)

1. 交流电压测量结果的相对扩展不确定度: $U_{rel}=0.3\%$, $k=2$

Related Expanded Uncertainty of AC Voltage Measurement Results

2. 交流电流测量结果的相对扩展不确定度: $U_{rel}=0.3\%$, $k=2$

Related Expanded Uncertainty of AC Current Measurement Results

3. 相位测量结果的扩展不确定度: $U=0.1^\circ$, $k=2$

Related Expanded Uncertainty of Phase Measurement Results

4. 结论判断依据: 仪器说明书技术要求

Basis for the conclusion : Technical Specification of the Instrument

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