



校准证书

CALIBRATION CERTIFICATE

证书编号: 2GB21006744-0006A

Certificate No.



中国认可
国际互认
校准
CALIBRATION
CNAS L13344

委托单位:

广州金升阳科技有限公司

Client

委托方地址:

广州市黄埔区科学城南云四路8号金升阳科技园

Address

仪器名称:

电流传感器

Description

型号规格:

TLA200-S

Model/Type

制造商:

MORNSUN

Manufacturer

机身号:

J202106001

Serial No.

接收日期:

2021-06-05

校准日期:

2021-06-08

Rec. Date

Cal. Date

签发日期:

2021-06-11

建议校准周期:

12个月(12 Months)

App. Date

Reference Cal. Period

结论:

所校准项目合格(Passed at Calibration Items)

Conclusion

校准:

Calibrated by

吴凤绸

核验:

Inspected by

黄安娜

签发:

Approved by

王洪喜

印章:

Stamp

赛宝计量检测中心

广州总部地址: 广州市增城区朱村街朱村大道西78号

客服电话: 020-87237633 传真: 020-87236189

投诉电话: 020-87236896

邮件: cal@ceprei.com

网址: www.ceprei-cal.com

CEPREI Calibration and Testing Centre

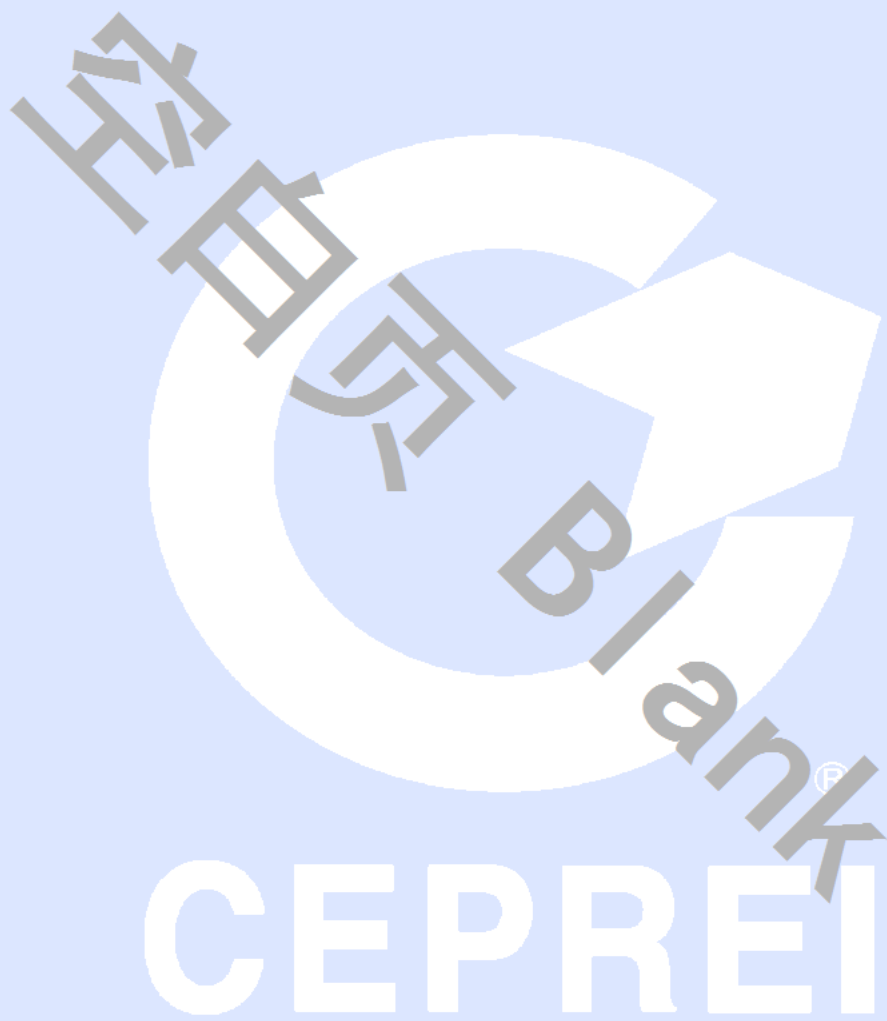
HQ Addr: No.78,Zhucun Avenue West,Zengcheng District,Guangzhou,China

Service Tel: 020-87237633 Fax: 020-87236189

Complaint Tel: 020-87236896

Email: cal@ceprei.com

Website: www.ceprei-cal.com



说 明

DIRECTIONS

1. 本机构质量管理体系符合ISO/IEC 17025:2017标准的要求, 获得中国合格评定国家认可委员会 (CNAS) 认可, 认可证书号为: CNAS L13344。

This laboratory quality management system meets the ISO/IEC 17025:2017 and is accredited by the China National Accreditation Service for Conformity Assessment, No. CNAS L13344.

2. 本次校准的技术依据及CNAS认可范围(Reference documents and CNAS accredited scopes):

- JJG(川)136-2017 霍尔电流 (电压) 传感器检定规程: AC current:(1mA~2000A)@(45Hz~1kHz);DC current:1mA~2000A;AC Voltage:(1V~600)V@(45Hz~1kHz);DC Voltage:1V~600V

* 详细内容请查看CNAS网站中注册编号为L13344的证书附件, 超出范围的内容未被认可, 其结果/结论所依据的合格评定活动不在认可范围内。(Please see the attachment of certificate No. L13344 at CNAS website for details, beyond which is not accredited, the conformity assessment activities on which the results/conclusions are based are outside the scope of accreditation.)

3. 本次校准所使用的主要测量标准(The main measurement standards used during the calibration):

名称 (Description)	证书号/有效期/溯源单位 (Certificate No./Due Date/Traceability to)	技术指标 (Specification)	测量范围 (Measuring Range)
超级大电流标准源(3526702)	4GC20000321-0001/2021-08-27/赛宝(广州)	DCA: $\pm 0.016\%$; ACA: $\pm 0.035\%$	DCA:(0~100)A; ACA(0.001~120)A@(10Hz~10kHz)
数字多用表(450274787)	4GC21000026-0114/2022-02-02/赛宝(广州)	U: DCV:(1.2~2.3) $\times 10^{-6}$; DCI:(0.5~3) $\times 10^{-5}$; ACV:(3~4) $\times 10^{-5}$; ACI: 2×10^{-4} ; R:(0.3~10) $\times 10^{-5}$; (k=2)	DCV:0V~1000V; DCI:0A~20A; ACV:(10nV~1000V)@(1Hz~1MHz); ACI:(100pA~20A)@(10Hz~100kHz); R:10 $\mu\Omega$ ~20G Ω ;
多功能校准器(4818901)	4GC20000512-0040/2022-01-05/赛宝(广州)	DCV: $\pm 1.2 \times 10^{-5}$; DCI: $\pm 1 \times 10^{-4}$; ACV: $\pm 1.2 \times 10^{-4}$; ACI: $\pm 0.06\%$; R: $\pm 2.8 \times 10^{-5}$; ACPower: $\pm 0.08\%$; DCPower: $\pm 0.023\%$; T: $\pm 0.14^\circ\text{C}$; Phase: $\pm 0.07^\circ$; f: $\pm 2.5 \times 10^{-6}$; C: $\pm 0.19\%$	DCV: (0~ ± 1020) V; DCI: (0~ ± 20.5) A; ACV: (1mV~1020V)@(10Hz~500kHz); ACI: (29 μA ~20.5A)@(10Hz~30kHz); R: (0~1100) M Ω ; DCPower: 109 μW ~20.5kW; ACPower: (109 μW ~20.5kW)@(45Hz~65Hz,PF=1); T: (-250~2316) $^\circ\text{C}$; Phase: (0~179.99 $^\circ$)@(10Hz~10kHz); f: 0.01Hz~2MHz; C: 0.22nF~1.1mF

4. 校准地点(The calibration place):

广州市增城区朱村街朱村大道西78号9栋306室

5. 环境条件(Environmental conditions):

温度(Temperature): 21.8 $^\circ\text{C}$ 相对湿度(Relative Humidity): 60.6%

6. 本证书中给出的扩展不确定度依据JJF1059.1-2012《测量不确定度的评定与表示》评定, 由合成标准不确定度乘以包含概率约为95%时对应的包含因子k得到。

The extended uncertainty given in this certificate is evaluated according to JJF1059.1-2012 "Evaluation and Expression of Uncertainty in Measurement", and is calculated by multiplying the combined standard uncertainty by the coverage factor k which corresponding to the coverage probability about 95%.

7. 证书中"P"、"合格"代表"测量结果在允许范围内", "F"、"不合格"代表"测量结果不在允许范围内", "N/A"代表"不适用或技术指标暂时无法确认等"。本证书报告的结论仅供参考, 使用人员应结合实际测量的要求合理使用, 如考虑测量结果测量不确定度的影响等。

"P" and "Pass" in this certificate stand for "Low Limit \leq the measured value \leq High Limit", "F" and "Fail" stand for "the measured value <Low Limit or the measured value >High Limit", "N/A" stands for "Not Applicable or The technical specification has not been confirmed etc".The conclusions of this certificate are for reference only. Users should use them reasonably according to the actual measurement requirements, such as considering the impact of measurement uncertainty, etc.

8. 建议校准周期是本实验室依据本证书报告的技术依据和仪器设备常规使用条件给出的建议, 供委托方参考。委托方可以根据实际使用情况自行决定样品的校准周期。

The reference calibration period is based on the reference documents and normal operating conditions of the calibrated instrument. It is only for reference. The client may decide the calibration period of the instrument according to the actual use.

9. 备注(Comments):

本证书替代编号2GB21006744-0006证书, 编号2GB21006744-0006证书作废。



注: 1. 本证书未经本机构书面授权, 不得部分复制。(The certificate shall not be partly reproduced without written approval of the laboratory.)

2. 本次校准结果仅与被校物有关。(The results are only related to the items calibrated.)

1. 外观与工作正常性检查 (Appearance and Function Check)

无影响证书中测量结果准确度的因素和缺陷。

There are no factor and defect that affect the measurement result accuracy of the certificate.

2. 电流测量 (Current Measurement)

2.1 50Hz 交流 (AC 50Hz)

量程 (Range)	输入标准值 (Input)	理论输出值 (Nominal Output)	实际输出值 (Reference Output)	误差 (Error)	允许误差 (Limit)	结论 (Pass/Fail)	U ($k=2$)
(A)	(A)	(mA)	(mA)	(mA)	(mA)		(mA)
300	25	12.500	12.496	-0.004	± 0.10	P	0.02
	50	25.000	24.990	-0.010	± 0.20	P	0.04
	100	50.000	49.988	-0.012	± 0.40	P	0.08
	150	75.000	74.980	-0.020	± 0.60	P	0.12
	200	100.000	99.983	-0.017	± 0.80	P	0.16
	250	125.000	124.981	-0.019	± 1.00	P	0.20
	300	150.000	149.977	-0.023	± 1.20	P	0.24

2.2 直流 (DC)

量程 (Range)	输入标准值 (Input)	理论输出值 (Nominal Output)	实际输出值 (Reference Output)	误差 (Error)	允许误差 (Limit)	结论 (Pass/Fail)	U ($k=2$)
(A)	(A)	(mA)	(mA)	(mA)	(mA)		(mA)
300	25	12.500	12.502	0.002	± 0.10	P	0.02
	50	25.000	24.999	-0.001	± 0.20	P	0.04
	100	50.000	50.000	0.000	± 0.40	P	0.08
	150	75.000	75.002	0.002	± 0.60	P	0.12
	200	100.000	100.005	0.005	± 0.80	P	0.16
	250	125.000	125.005	0.005	± 1.00	P	0.20
	300	150.000	150.005	0.005	± 1.20	P	0.24

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