



校准证书

CALIBRATION CERTIFICATE

证书编号 GDDE202400200
Certificate No.

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委托方 优利德科技(中国)股份有限公司
Client

委托方联络信息 广东省东莞市松山湖园区工业北一路6号
Contact Information

计量器具名称 漏电保护开关测试仪 (剩余电流动作保护器动作特性检测仪)
Description

型号规格 UT582+
Model/Type

制造厂 UNI-T
Manufacturer

出厂编号 C232880626
Serial No.

设备编号 /
Equipment No.

接收日期 2024 年 03 月 21 日
Date of Receipt Y M D

结果 见校准结果
Results

校准日期 2024 年 03 月 25 日
Date of calibration Y M D

批准人 何洪波
Approved Signatory

核 验 何洪波
Reviewed by

校 准 叶峻江
Calibrated by

证书专用章
Stamp





说明

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DIRECTIONS

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1. 本中心是国家市场监督管理总局在华南地区设立的国家法定计量检定机构, 本中心的质量管理体系符合 ISO/IEC 17025:2017 标准的要求。

This laboratory is the National Legal Metrological Verification Institution in southern China set up by the General Administration of Quality Supervision. The quality system is in accordance with ISO/IEC 17025:2017.

2. 本中心所出具的数据均可溯源至国家计量基准和/或国际单位制 (SI)。

All data issued by this laboratory are traceable to national primary standards and/or International System of Units (SI)

3. 校准地点、环境条件:

Place and environmental conditions of the calibration:

地点 A4-403 电力实验室 温度 (20.6~21.3) °C 相对湿度 (59~66) %
Place Temperature RH

4. 本次校准的技术依据:

Reference documents for the calibration:

JJF 1283-2011 剩余电流动作保护器动作特性检测仪校准规范 C.S. for Residual Current Operated Protective Device Operated Characteristic Tester

5. 本次校准所使用的主要计量标准器具:

Major standards of measurement used in the calibration:

设备名称/型号规格/测量范围 Name of Equipment /Model/Type/Range	编号 Serial No.	证书号/有效期/溯源单位 Certificate No./Due Date /Traceability to	计量特性 Metrological Characteristic
数字多用表 /8846A/DCV/ACV: 1mV~1000V ;DCA/ACA: 10 μA~10A;DCR: 0.1 Ω~1G Ω	2224001	GDDD202301205 /2024-10-17 /本中心	MPE:DCV: ±0.003%;ACV: ±0.09%;DCA: ±0.055%;ACA: ±0.14%;DCR: ±0.011%
数字示波器 /TDS3032B/0.1mV~100V;DC~300MHz	B013511	GDA A202300354 /2024-12-06 /本中心	MPE: 电压: ±2%, 时标: ±0.01%

注: 1. 本证书校准结果只与受校准仪器有关。The results relate only to the items calibrated.

Note: 2. 未经本机构书面批准, 不得部分复制此证书。This certificate shall not be reproduced except in full, without the written approval of our laboratory.

3. “委托方”、“委托方联络信息”由委托方提供, “制造厂”、“型号规格”、“出厂编号”以及“设备编号”为仪器上标注。The information Client and Contact Information are provided by client, and the Manufacturer, Model/Type, Serial No. and Equipment No. are marked on the items.

4. 本次校准日期视为发布日期。The calibration date is the date of issue of the certificate.



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一、分断时间:见表1

Breaking time of RCD : Shown in table 1

表1 Table 1

倍率/相位 Multiply/phase	标准值 Reference Value (ms)	指示值 Indicated value (ms)	误差 Error (ms)	允许误差 MPE (ms)	结论 Conclusion P/F
1×30mA/0°	20	19	-1	±2	Pass
	50	49	-1	±3	Pass
	100	99	-1	±4	Pass
	200	200	0	±6	Pass
	500	500	0	±12	Pass
	990	991	1	±22	Pass
1×30mA/180°	20	20	0	±2	Pass
	50	50	0	±3	Pass
	100	100	0	±4	Pass
	200	200	0	±6	Pass
	500	500	0	±12	Pass
	990	990	0	±22	Pass
1×10mA/0°	20	20	0	±2	Pass
	50	50	0	±3	Pass
	100	100	0	±4	Pass
	200	200	0	±6	Pass
	500	500	0	±12	Pass
	990	992	2	±22	Pass
1×100mA/0°	20	19	-1	±2	Pass
	50	49	-1	±3	Pass
	100	100	0	±4	Pass
	200	200	0	±6	Pass
	500	500	0	±12	Pass
	990	990	0	±22	Pass
5×30mA/0°	20	19	-1	±2	Pass
	40	39	-1	±3	Pass
5×10mA/0°	20	19	-1	±2	Pass



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	40	39	-1	±3	Pass
5×20mA/0°	20	19	-1	±2	Pass
	40	39	-1	±3	Pass

二、剩余电流（正弦交流）：见表2

Residual current I_{Δ} : Shown in table 2

表2 Table 2

倍率 Multiply	剩余电流/ I_{Δ} Residual current (mA)	标称值 Reference Value (mA)	实际值 Actual Value (mA)	偏差 Deviation (mA)	允许范围 Allowable range (mA)	结论 Conclusion P/F
1×	10	10.00	10.69	0.69	±1.07	Pass
	30	30.00	32.41	2.41	±3.24	Pass
	100	100.0	106.8	6.8	±10.7	Pass
	300	300.0	321.0	21.0	±32.1	Pass
	500	500	536	36	±54	Pass
0.5×	10	5.00	4.74	-0.26	±0.47	Pass
	20	10.00	9.47	-0.53	±0.95	Pass
	30	15.00	14.36	-0.64	±1.44	Pass
	100	50.00	46.19	-3.81	±4.62	Pass
	300	150.0	141.8	-8.2	±14.2	Pass
5×	500	250.0	241.2	-8.8	±24.1	Pass
	10	50.0	52.9	2.9	±5.3	Pass
	20	100	104	4	±10	Pass
Auto	20	150	156	6	±16	Pass
	30	33.00	33.53	0.53	±3.35	Pass

说明:

Note:

1. 本次测量结果的扩展不确定度:

The Expanded Uncertainty of Measurement:

分断时间: $U=2\text{ms}$; 剩余电流: $U_{rel}=1.5\%$;

包含因子 $k=2$, 本证书中给出的扩展不确定度依据 JJF1059.1-2012《测量不确定度评定与表示》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。



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Coverage factor $k=2$, the expanded uncertainty given in this certificate is evaluated according to JJF 1059.1-2012 *Evaluation and Expression of Uncertainty in Measurement*, which is obtained by multiplying the combined standard uncertainty by the coverage factor k corresponding to the coverage probability of about 95%.

2. 校准结果符合性判定依据 JJF 1094-2002 《测量仪器特性评定》第 5.3.1 条款和该仪器说明书技术要求。

Decision rules of conformity is JJF 1094-2002 *Evaluation of the Characteristic of Measuring Instruments* (5.3.1) and the technical requirements in the manual.

3. 按照所依据技术文件的规定, 建议复校时间间隔不超过 1 年。更换重要部件、维修或对仪器性能有怀疑时应及时校准。

According to the demand of reference document, next calibration is proposed within 1 year. In case of replacement of important parts, maintenance or doubt on the performance of the instrument, it shall be calibrated in time.

