



广州力赛计量检测有限公司
GUANGZHOU LISAI CALIBRATION AND TESTING CO., LTD



校准证书

CALIBRATION CERTIFICATE



证书编号: Certificate No.	2WB1902350-0005	
委托方: Client	海南美亚电能有限公司	
委托方地址: Customer Addr.	海口国家高新区狮子岭工业园火炬横路10号	
仪器名称: Description	三相继电保护测试仪	
型号/规格: Model/Type	SX-6600	
制造厂: Manufacturer	武汉三新电力设备制造有限公司	
出厂编号: Serial No.	1903151	管理号: Asset No.
接收日期: Acce.Date	2019年04月24日 Y M D	
校准日期: Cal.Date	2019年04月24日 Y M D	
建议下次校准日期: Due Date	2020年04月23日 Y M D	
结论: Conclusion	所校准项目合格 (Passed at Calibration Items)	
校准: Calibrated by	徐明	核验: Inspected by
批准人: Approved by	方虹	专业室主任
		证书专用章 Stamp

本实验室地址: 广州市番禺区石基镇农村所南的8号
Address: No.8.South Street, Shi Ji Institute, Guangzhou, China.
联系电话: 020-31134076 Tel: 020-31134076
传真: 020-31134076 邮编: 511400 Fax: 020-31134076 Post: 511400
主页地址: <http://www.LisaiTest.com>
电子邮件: mail.lisai@163.com E-Mail: mail.lisai@163.com

校准说明

Directions of Calibration

证书编号: 2WB1902350-0005
Certificate No.

1. 本机构出具的数据均可溯源至国家计量基准和国际单位制(SI)。
All data issued by this calibration are traced to National Primary Standards and International System of Units(SI).
2. 本结果只与受校准样品有关。
The results relate only to the items calibrated.
3. 未经本实验室书面批准, 不得部分复制校准/试验报告。
This certificate shall not be reproduced except in full, without the written approval of our laboratory.
4. 委托单位如果对本次校准/试验有异议, 应于收到被检件之日起十五天内向本实验室提出。
If there is any objection concerning the calibration, the client should inform the calibration laboratory within 15 days from the date of the device under calibration return to the client.
5. 证书内页中“P”代表“Pass”, “F”代表“Fail”, “N/A”代表“Not Applicable”,
In the datasheet, “P” represents “Pass” and “F” represents “Fail” and “N/A” represents “Not Applicable”.
6. 环境条件 (Environmental condition during the calibration):
温度(Temperature): 22 (°C) 相对湿度(Relative Humidity): 55 (%)
7. 校准地点 (Place of the calibration):
武汉三新电力设备制造有限公司 (质检部)
8. 本次校准的技术依据 (Reference documents for the Calibration):
JJG 1112-2015 继电保护测试仪校准规范
9. 备注 (Comments):

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

标准名称 (Description)	出厂编号 (Serial No.)	证书编号 (Certificate No.)	标准有效期 (Due Date)	计量特性 (Metrological Characteristics)
数字万用表 /Digit Multimeter	MY41024661	3WC1800124-0008	2019-09-24	DCV:Urel=0.0027%, ACV:Urel=0.25% DCI:Urel=0.03%, ACI:Urel=0.07% OHM:Urel=0.07% (k=2)
电流分流器/Shunt	0938	3GC1800077-0144	2019-06-19	MPE±0.3%



1、外观以及一般性检查:

In view of External and Generality check:

合格
Pass

2、交流电压(AC Voltage):

频率 Frequency (Hz)	相线 Phase line	指示值 Indicated (V)	标准值 Reference (V)	误差 Error (V)	不确定度 Uncertainty (%)	允许误差 MPE (V)	结论 Conclusion (Pass/Fail)
50	UA	10.000	10.013	-0.013	0.3	±0.050	P
		50.000	50.045	-0.045	0.3	±0.250	P
		100.000	100.102	-0.102	0.3	±0.500	P
		125.000	125.090	-0.090	0.3	±0.625	P
	UB	10.000	10.018	-0.018	0.3	±0.050	P
		50.000	50.050	-0.050	0.3	±0.250	P
		100.000	100.125	-0.125	0.3	±0.500	P
		125.000	125.110	-0.110	0.3	±0.625	P
	UC	10.000	10.024	-0.024	0.3	±0.050	P
		50.000	50.050	-0.050	0.3	±0.250	P
		100.000	100.098	-0.098	0.3	±0.500	P
		125.000	125.050	-0.050	0.3	±0.625	P
Ua	10.000	9.996	0.004	0.3	±0.050	P	
	50.000	49.985	0.015	0.3	±0.250	P	
	100.000	99.947	0.053	0.3	±0.500	P	
	125.000	124.910	0.090	0.3	±0.625	P	
Ub	10.000	10.024	-0.024	0.3	±0.050	P	
	50.000	50.050	-0.050	0.3	±0.250	P	
	100.000	100.098	-0.098	0.3	±0.500	P	
	125.000	125.050	-0.050	0.3	±0.625	P	
Uc	10.000	9.998	0.002	0.3	±0.050	P	
	50.000	49.983	0.017	0.3	±0.250	P	
	100.000	99.973	0.027	0.3	±0.500	P	
	125.000	124.910	0.090	0.3	±0.625	P	



3、直流电压(DC Voltage):

相线 Phase line	指示值 Indicated (V)	标准值 Reference (V)	误差 Error (V)	不确定度 Uncertainty (%)	允许误差 MPE (V)	结论 Conclusion (Pass/Fail)
UA	10.000	10.015	-0.015	0.1	±0.050	P
	20.000	20.044	-0.044	0.1	±0.100	P
	50.000	50.137	-0.137	0.1	±0.250	P
	100.000	100.301	-0.301	0.2	±0.500	P
	150.000	150.480	-0.480	0.2	±0.750	P
UB	10.000	10.024	-0.024	0.1	±0.050	P
	20.000	20.051	-0.051	0.1	±0.100	P
	50.000	50.138	-0.138	0.1	±0.250	P
	100.000	100.245	-0.245	0.2	±0.500	P
	150.000	150.530	-0.530	0.2	±0.750	P
UC	10.000	10.013	-0.013	0.1	±0.050	P
	20.000	20.047	-0.047	0.1	±0.100	P
	50.000	50.093	-0.093	0.1	±0.250	P
	100.000	100.178	-0.178	0.2	±0.500	P
	150.000	150.470	-0.470	0.2	±0.750	P
Ua	10.000	10.028	-0.028	0.1	±0.050	P
	20.000	20.041	-0.041	0.1	±0.100	P
	50.000	50.092	-0.092	0.1	±0.250	P
	100.000	100.178	-0.178	0.2	±0.500	P
	150.000	150.270	-0.270	0.2	±0.750	P
Ub	10.000	10.017	-0.017	0.1	±0.050	P
	20.000	20.043	-0.043	0.1	±0.100	P
	50.000	50.132	-0.132	0.1	±0.250	P
	100.000	100.082	-0.082	0.2	±0.500	P
	150.000	150.410	-0.410	0.2	±0.750	P
Uc	10.000	10.014	-0.014	0.1	±0.050	P
	20.000	20.030	-0.030	0.1	±0.100	P
	50.000	50.089	-0.089	0.1	±0.250	P
	100.000	100.182	-0.182	0.2	±0.500	P
	150.000	150.250	-0.250	0.2	±0.750	P



4. 交流电流 (AC Current) :

频率 Frequency (Hz)	相线 Phase line	指示值 Indicated (A)	标准值 Reference (A)	误差 Error (A)	不确定度 Uncertainty (%)	允许误差 MPE (A)	结论 Conclusion (Pass/Fail)
50	IA	1.000	1.001	-0.001	0.2	±0.005	P
		2.000	2.006	-0.006	0.2	±0.010	P
		5.000	5.002	-0.002	0.2	±0.025	P
		10.000	10.024	-0.024	0.2	±0.050	P
		20.000	20.003	-0.003	0.2	±0.100	P
		30.000	30.013	-0.013	0.2	±0.150	P
	IB	1.000	1.003	-0.003	0.2	±0.005	P
		2.000	2.003	-0.003	0.2	±0.010	P
		5.000	5.011	-0.011	0.2	±0.025	P
		10.000	10.022	-0.022	0.2	±0.050	P
		20.000	20.032	-0.032	0.2	±0.100	P
		30.000	30.033	-0.033	0.2	±0.150	P
IC	1C	1.000	1.002	-0.002	0.2	±0.005	P
		2.000	2.004	-0.004	0.2	±0.010	P
		5.000	5.006	-0.006	0.2	±0.025	P
		10.000	10.011	-0.011	0.2	±0.050	P
		20.000	20.021	-0.021	0.2	±0.100	P
		30.000	30.025	-0.025	0.2	±0.150	P
	Ia	1.000	1.001	-0.001	0.2	±0.005	P
		2.000	2.005	-0.005	0.2	±0.010	P
		5.000	5.011	-0.011	0.2	±0.025	P
		10.000	10.014	-0.014	0.2	±0.050	P
		20.000	20.016	-0.016	0.2	±0.100	P
		30.000	30.033	-0.033	0.2	±0.150	P
Ib	1.000	0.997	0.003	0.2	±0.005	P	
	2.000	1.997	0.003	0.2	±0.010	P	
	5.000	4.991	0.009	0.2	±0.025	P	
	10.000	9.983	0.017	0.2	±0.050	P	
	20.000	19.987	0.013	0.2	±0.100	P	
	30.000	29.974	0.026	0.2	±0.150	P	



4、交流电流 (AC Current): (续上表)

频率 Frequency (Hz)	相线 Phase line	指示值 Indicated (A)	标准值 Reference (A)	误差 Error (A)	不确定度 Uncertainty (%)	允许误差 MPE (A)	结论 Conclusion (Pass/Fail)
50	If	1.000	1.003	-0.003	0.2	±0.005	P
		2.000	2.006	-0.006	0.2	±0.010	P
		5.000	5.009	-0.009	0.2	±0.025	P
		10.000	10.012	-0.012	0.4	±0.050	P
		20.000	20.015	-0.015	0.4	±0.100	P
		30.000	30.022	-0.022	0.4	±0.150	P

5、直流电流 (DC Current):

相线 Phase line	指示值 Indicated (A)	标准值 Reference (A)	误差 Error (A)	不确定度 Uncertainty (%)	允许误差 MPE (A)	结论 Conclusion (Pass/Fail)
IA	1.000	1.0020	-0.0020	0.2	±0.005	P
	2.000	2.0010	-0.0010	0.2	±0.010	P
	5.000	5.0020	-0.0020	0.2	±0.025	P
	10.000	10.0030	-0.0030	0.2	±0.050	P
	20.000	20.0030	-0.0030	0.2	±0.100	P
	30.000	30.0130	-0.0130	0.2	±0.150	P
IB	1.000	1.0010	-0.0010	0.2	±0.005	P
	2.000	2.0010	-0.0010	0.2	±0.010	P
	5.000	5.0020	-0.0020	0.2	±0.025	P
	10.000	10.0030	-0.0030	0.2	±0.050	P
	20.000	20.0030	-0.0030	0.2	±0.100	P
	30.000	30.0130	-0.0130	0.2	±0.150	P
IC	1.000	1.0010	-0.0010	0.2	±0.005	P
	2.000	2.0010	-0.0010	0.2	±0.010	P
	5.000	5.0020	-0.0020	0.2	±0.025	P
	10.000	10.0030	-0.0030	0.2	±0.050	P
	20.000	20.0030	-0.0030	0.2	±0.100	P
	30.000	30.0130	-0.0130	0.2	±0.150	P



5. 直流电流 (DC Current): (续上表)

相线 Phase line	指示值 Indicated (A)	标准值 Reference (A)	误差 Error (A)	不确定度 Uncertainty (%)	允许误差 MPE (A)	结论 Conclusion (Pass/Fail)
Ia	1.000	1.0010	-0.0010	0.2	±0.005	P
	2.000	2.0030	-0.0030	0.2	±0.010	P
	5.000	5.0120	-0.0120	0.2	±0.025	P
	10.000	10.0330	-0.0330	0.2	±0.050	P
	20.000	20.0750	-0.0750	0.2	±0.100	P
	30.000	30.1230	-0.1230	0.2	±0.150	P
Ib	1.000	1.0010	-0.0010	0.2	±0.005	P
	2.000	2.0030	-0.0030	0.2	±0.010	P
	5.000	5.0110	-0.0110	0.2	±0.025	P
	10.000	10.0250	-0.0250	0.2	±0.050	P
	20.000	20.0540	-0.0540	0.2	±0.100	P
	30.000	30.0890	-0.0890	0.2	±0.150	P
Ic	1.000	1.0020	-0.0020	0.2	±0.005	P
	2.000	2.0070	-0.0070	0.2	±0.010	P
	5.000	5.0110	-0.0110	0.2	±0.025	P
	10.000	10.0140	-0.0140	0.2	±0.050	P
	20.000	20.0230	-0.0230	0.2	±0.100	P
	30.000	30.0320	-0.0320	0.2	±0.150	P

6. 频率 (Frequency): 电压:50V

指示值 Indicated	标准值 Reference (Hz)	误差 Error (Hz)	不确定度 Uncertainty (%)	允许误差 MPE (Hz)	结论 Conclusion (Pass/Fail)
50.0	50.000	0.000	0.02	±0.005	P
60.0	60.000	0.000	0.02	±0.006	P
100.0	100.001	-0.001	0.02	±0.010	P
400.0	400.002	-0.002	0.02	±0.040	P



附: 关于测量结果不确定度的说明:

appendix: Directions of uncertainty in the calibration

1. 依据(Reference document)

JJF 1059.1-2012 测量不确定度评定与表示

(JJF 1059.1-2012 Evaluation and Expression of Uncertainty in Measurement)

测量结果扩展不确定度 (Expanded uncertainty of the measurement results)

$k=2$

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