DESCRIPTION

❖ CHARACTERS

- ❖ Size/Weight：377×30×20(mm)250±20(g);
- ❖ Fully protected plastic shell, naturally air-cooled and silent operation;
- ❖ Hidden screw terminal；
- ❖ With input surge current suppression；
- ❖ Buffered fast start ≤1.2s；
- ❖ No load power consumption≤0.3W;
- ❖ Comply with THE ErP Directive (EU) 2019/2020;
- ❖ Input under voltage protection；
- ❖ Output short circuit protection；
- ❖ Output overload protection；
- ❖ 110℃ overheat protection；
- ❖ Working temperature range of -20 ~45℃ (please refer to "derating application curve" for specific application)；
- ❖ Suitable for use in Dry Locations；

Application area

- ❖ High efficiency, energy saving and long life LED lighting equipment.
- ❖ High grade home LED decorative light belt;
- ❖ High grade LED advertisement and display board;
- ❖ LED lighting layout of exhibition racks and jewelry counters in high-end supermarkets;

SUMMARY

❖ PRI	100V~240Vac@96W，200V~240Vac@120W
❖ SEC	CV dc24V±3% 0～4A/5A
❖ PF	＞0.95
❖ THD	＜10%
❖ Efficiency(Typ)	94%@220Vfull load
❖ Withstand voltage	I/P-O/P: 3.75KVac
❖ Surge capacity	L-N:2kV
❖ Temperature	Ta:45℃ Tc:85℃

Safety specification

GB19510.1、GB19510.14、UL1310、UL 60950-1、UL8750、BS/IEC/EN/DIN/KC 61347-1、IEC/EN/DIN EN/KC 61347-2-13、AS/NZS 61347.1、AS/NZS 61347.2.13、J61347-1、J61347-2-13

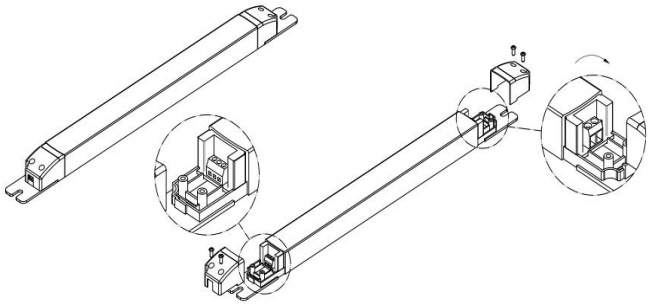
EMC

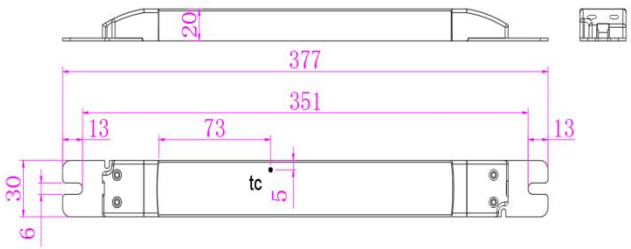
GB17625.1、GB/T17743、IEC/EN 61000-3-2、IEC/EN 61547、BS/EN55015、AS/NZS CISPR 15、J55015、BS/EN61000 KN61547、GB/T18595、IEC/EN 61000-3-2、IEC/EN 61000-3-3、IEC/EN 61000-4-2、BS/IEC/EN 61547、KN15、KN61547

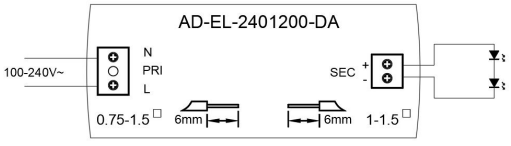
Certification

The certification types will be increased as needed. You can contact our company's salesperson to learn more.

SELV 110



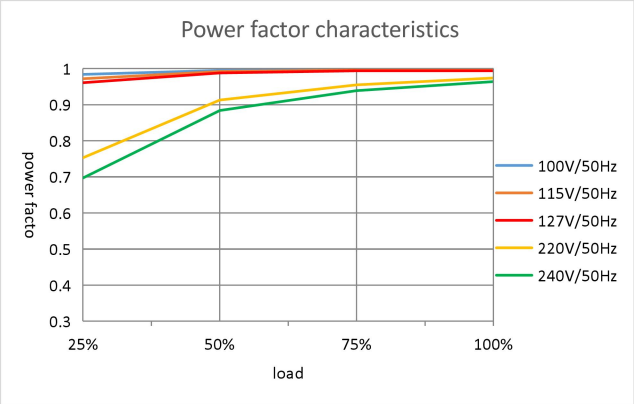


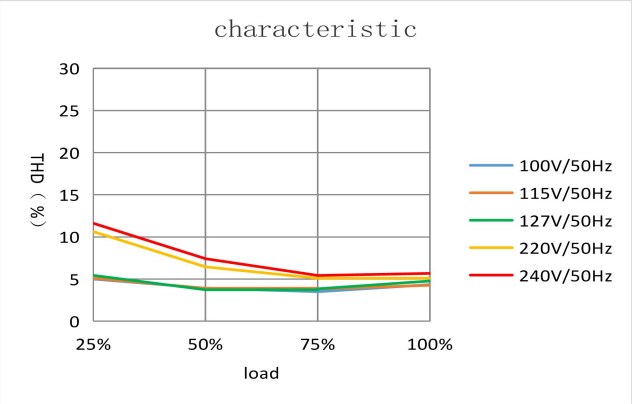


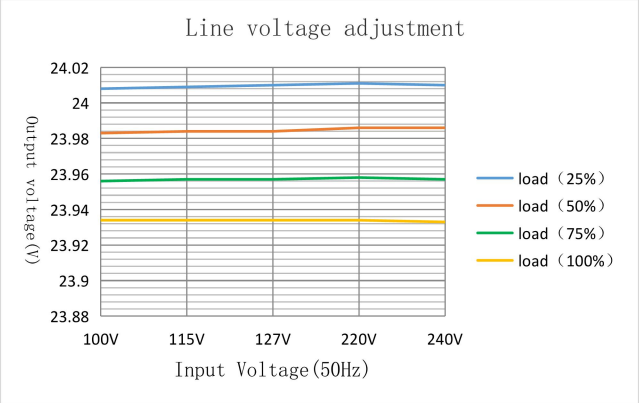
ITEM		Model
		AD-EL-2401200-DA
Output	Rated power(Max) **note1**	120W
	DC voltage **note2**	24V
	Rated current	4A/5A
	Current range	0 ~4A/5A
	Ripple and Noise **note3**	(Max)300mVp-p
	Voltage accuracy **note4**	±3%
	Start time **note5**	≤1.2s
Input	Rated input	100 ~ 240Vac@96W，200 ~ 240Vac@120W，
	Voltage range **note6**	90 ~ 264Vac 150~-380Vdc
	Ac frequency range	47~ 63Hz
	power factor(Typ)	0.97@220Vac 50Hz
	THD(full load)	<10%@220Vac
	Full load efficiency(Typ)	＞94%@220Vac（After 5-10 minutes of stability）
	Input current(Typ)	1.35A / 100Vac 0.6A / 220Vac
	Surge current(Max)	Cold start：70A/230Vac
	Surge capacity	L-N:2kV
	Leakage current(Max)	＜0.7mA / 230Vac
Output stability	Line voltage adjustment rate **note7**	（Typ）0.5%
	Load adjustment rate **note8**	（Typ）0.5%
Protect	Input under voltage protection	When the input is below 75±5Vac, it will not start.
	Overload protection	After triggering overload protection, it enters burping mode and automatically resumes operation after the abnormality is resolved.
	Short circuit protection	When the load is short circuited, it enters the burping mode and automatically resumes operation after the abnormality is resolved.
	Overheat protection	When the shell (tc) reaches 110 ± 10 ℃, it enters the protection and stops working until the shell (tc) drops to 70 ± 15 ° C, and automatically resumes working.
Environment and lifespan	Working temperature	-20～+45℃ (" Please refer to "derating application curve")。
	Working humidity	20 ~ 85% RH,
	Tc max(℃)	85℃
	Nominal life-time(hrs) **note9**	50000
	Storage temperature and humidity	-40 ~ +60℃, 10 ~ 85% RH
Safety and Electromagnetic Compatibility	Certification testing **note10**	Pass the test

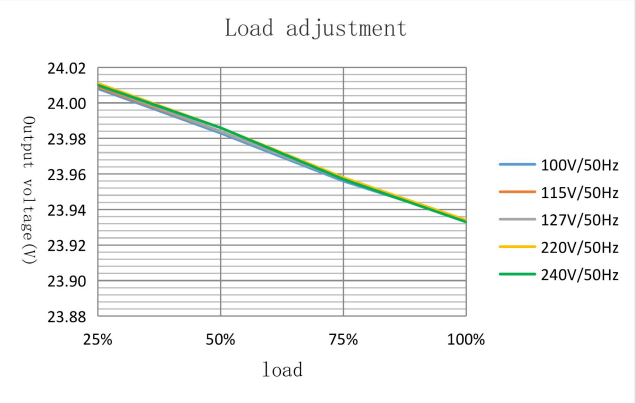
Connector	Input and output：Screw connector	When using, it is necessary to choose the wire that meets the corresponding certification according to the country and region where it is located.
Note	1.The instantaneous power during load startup should be less than 1.3 times the rated output power of the power supply, and the long-term continuous operation power should not exceed the rated value of the power supply. It is recommended that the load power be within 90% of the rated power of the power supply. 2.DC voltage measurement method: under 50% load condition, at the socket terminal point measurement. 3.Ripple and noise measurement method: use a 12 "twisted pair, and the terminals should be connected in parallel 0.1μF and 47μF The capacitance was measured at 20 MHz. 4.Accuracy: including setting error, linear adjustment rate and load adjustment rate. 5.The start-up time is measured under the condition of cold start-up. Frequent on-off may increase the start-up time. 6.Under the condition of low input voltage, derating output is required. Please refer to the static characteristic curve for details. 7.Linear adjustment rate measurement method: from low voltage to high voltage test under rated load. 8.Load regulation rate measurement method: under rated power supply voltage, from light load to full load test. 9.In practical application, if the highest temperature Tc of the shell is lower than 85℃, the service life is more than 50000 hours. 10.LED control devices should be considered as part of the system's internal components. Incorrect installation methods will result in EMI failure, and electromagnetic compatibility related confirmation needs to be conducted in conjunction with terminal equipment. For guidance on EMI testing operations, please refer to the corresponding certification standards for EMI testing requirements. ❖ Unlessotherwise specified, all specifications and parameters shall be measured under the environment of 220VAC 50Hz, rated load and 25 ℃ / 70% RH. ❖ The measured data of different equipment may be different, please confirm before use. The company reserves the right of final interpretation of this specification.	

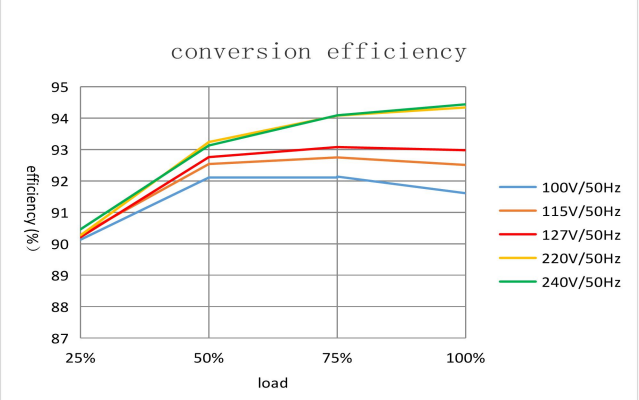
❖ Typical characteristic curve



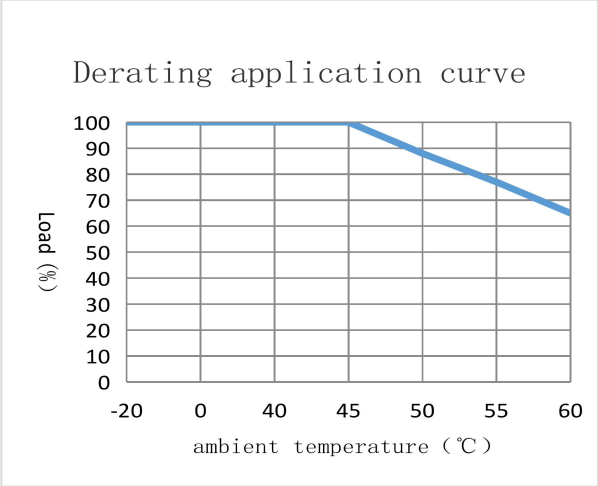


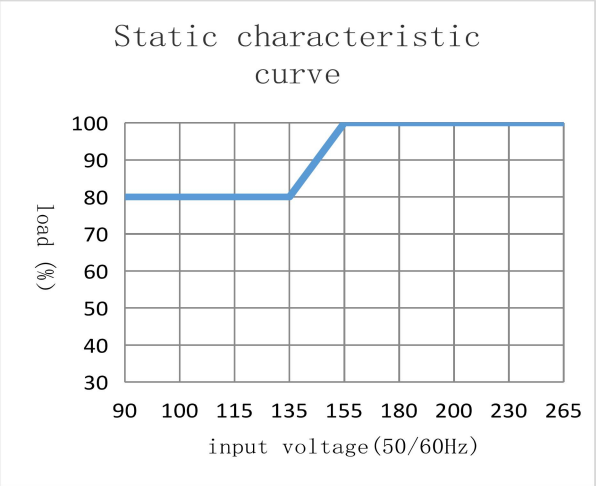






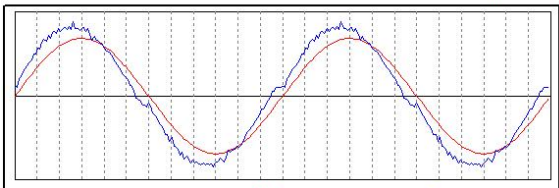
❖ Application of derating



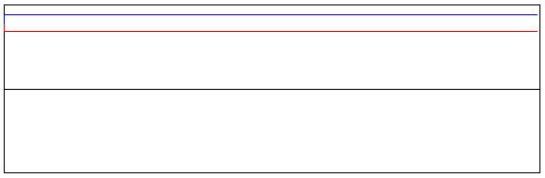


❖ Typical comprehensive data

Compositive Characteristic Test Report



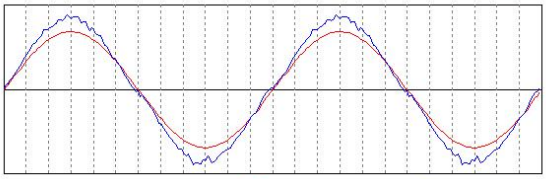
Spectrum k	Voltage %	Current %
2	0.12	0.35
3	0.10	2.99
5	0.22	2.48
7	0.11	2.03
9	0.08	0.55
11	0.11	1.28



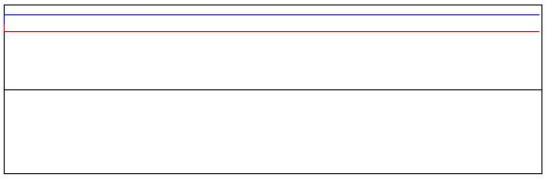
Urms(V)	219.94
Irms(A)	0.5907
P (W)	126.46
PF	0.973
Freq (Hz)	49.978
Irmsw(A)	0.5908
PFw	0.973
CFv	1.42
CFi	1.56
THDU(%)	0.37%(IEC)
THDI(%)	5.31%(IEC)
THDIw(%)	5.55%(IEC)

Ulrms(V)	23.84
Ilrms(A)	5.0012
Pout(W)	119.23
IlrmsAC(A)	0.011
Power Efficient	0.943

Compositive Characteristic Test Report



Spectrum k	Voltage %	Current %
2	0.12	0.15
3	0.32	4.42
5	0.05	1.49
7	0.30	1.15
9	0.35	0.83
11	0.20	0.52

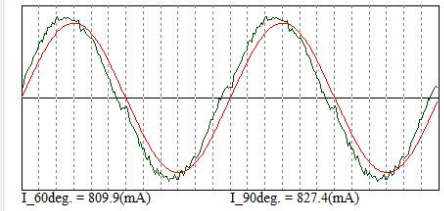


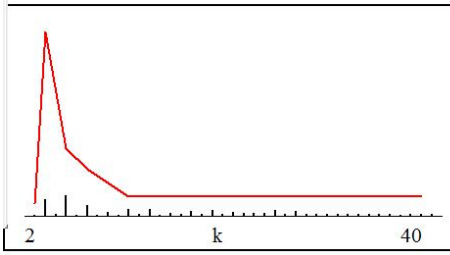
Urms(V)	99.96
Irms(A)	1.3004
P (W)	129.71
PF	0.998
Freq (Hz)	49.980
Irmsw(A)	1.3005
PFw	0.998
CFv	1.42
CFi	1.51
THDU(%)	0.73%(IEC)
THDI(%)	5.51%(IEC)
THDIw(%)	5.67%(IEC)

Ulrms(V)	23.84
Ilrms(A)	5.0013
Pout(W)	119.24
IlrmsAC(A)	0.011
Power Efficient	0.919

Result:PASS — Harmonic Characteristic Test Report — IEC Class C

Urms(V)	Irms(A)	P(W)	PF	DF	I-1(A)	CFi	Ipk(A)	THDI(%)
219.94	0.5909	126.51/126.52	0.974	0.975	0.5900	1.509	0.8916	5.51
THCI(A)	POHCI(A)	Ipk+(deg)	Ipk-(deg)	Imin60_90+(%)	Imin60_90-(%)	Str Phase(deg)	Peak Phase(deg)	End Phase(deg)
0.032	0.010	79.69	79.38	87.95	87.34	0.0	83.9	160.3

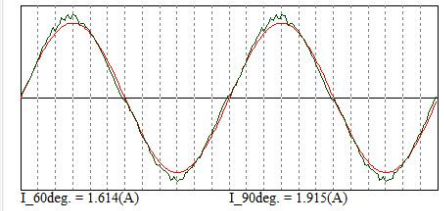


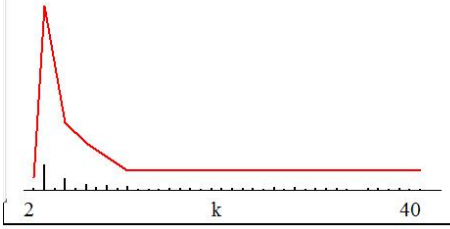


Spectrum k	Value %	Limit %	Spectrum k	Value %	Limit %
2	0.2464	2	3	2.5507	27
			5	3.1515	10
			7	1.6544	7
			9	0.6524	5
			11	1.1171	3
			13	1.1265	3
			15	0.5349	3
			17	0.7467	3
			19	0.94	3
			21	0.6023	3
			23	0.454	3
			25	0.8775	3
			27	0.8583	3
			29	0.3991	3
			31	0.3148	3
			33	0.2901	3
			35	0.3875	3
			37	0.236	3
			39	0.3409	3

Result:PASS — Harmonic Characteristic Test Report — IEC Class C

Urms(V)	Irms(A)	P(W)	PF	DF	I-1(A)	CFi	Ipk(A)	THDI(%)
99.95	1.3006	129.72/129.73	0.998	0.999	1.2990	1.518	1.9751	4.94
THCI(A)	POHCI(A)	Ipk+(deg)	Ipk-(deg)	Imin60_90+(%)	Imin60_90-(%)	Str Phase(deg)	Peak Phase(deg)	End Phase(deg)
0.064	0.015	84.38	85.50	81.73	85.60	2.0	88.6	171.6





Spectrum k	Value %	Limit %	Spectrum k	Value %	Limit %
2	0.358	2	3	3.8377	27
			5	1.7716	10
			7	0.9675	7
			9	0.8102	5
			11	0.6384	3
			13	0.2523	3
			15	0.3183	3
			17	0.4105	3
			19	0.3861	3
			21	0.3135	3
			23	0.2878	3
			25	0.5135	3
			27	0.4504	3
			29	0.3443	3
			31	0.3212	3
			33	0.1354	3
			35	0.3345	3
			37	0.2949	3
			39	0.2374	3

❖ Material version change statement

The version may be updated, please go to our company website to download the latest version as needed.

描述

特征

- ❖尺寸/重量：377×30×20(mm)250±20(g);
- ❖全防护塑壳，自然风冷静音运行；
- ❖隐藏式螺钉接线端子
- ❖具有输入浪涌电流抑制
- ❖缓冲快速启动≤1.2s
- ❖空载功耗≤0.3W；
- ❖符合欧盟ErP指令(EU) 2019/2020；
- ❖输入欠压保护；
- ❖输出短路保护；
- ❖输出过载保护；
- ❖110℃过热保护
- ❖-20~45℃工作温度范围（具体应用请按“减额应用曲线”）；
- ❖适用于干燥场所；

概要

❖输入	100V~240Vac@96W，200V~240Vac@120W
❖输出	恒压 dc24V±3% 0～4A/5A
❖功率因数	＞0.95
❖总谐波	＜10%
❖效率(典型)	94%@220V满载
❖绝缘耐压	I/P-O/P: 3.75KVac
❖抗浪涌电压	L-N:2kV
❖温度	Ta:45℃ Tc:85℃

安全规范

GB19510.1、GB19510.14、UL1310、UL 60950-1、UL8750、BS/IEC/EN/DIN/KC 61347-1、IEC/EN/DIN EN/KC 61347-2-13、AS/NZS 61347.1、AS/NZS 61347.2.13、J61347-1、J61347-2-13

应用领域

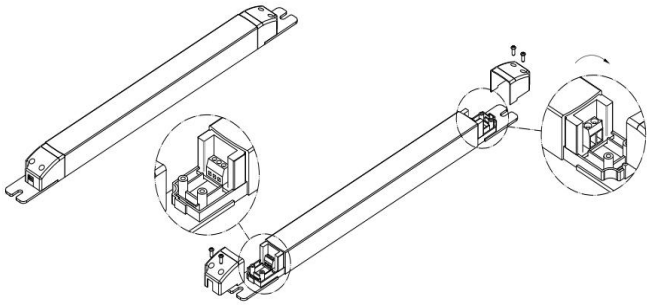
- ❖高效节能长寿命LED照明设备
- ❖高档家居LED装饰灯带
- ❖高档LED广告、展示牌
- ❖高档超市展物架、珠宝柜台等LED灯光布置

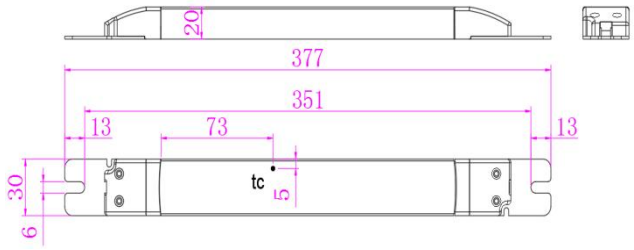
电磁兼容

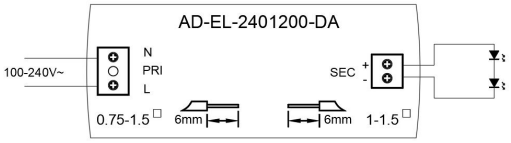
GB17625.1、GB/T17743、IEC/EN 61000-3-2、IEC/EN 61547、BS/EN55015、AS/NZS CISPR 15、J55015、BS/EN61000 KN61547、GB/T18595、IEC/EN 61000-3-2、IEC/EN 61000-3-3、IEC/EN 61000-4-2、BS/IEC/EN 61547、KN15、KN61547

认证

认证类型将根据需要增加，您可以联系我们公司的业务员了解



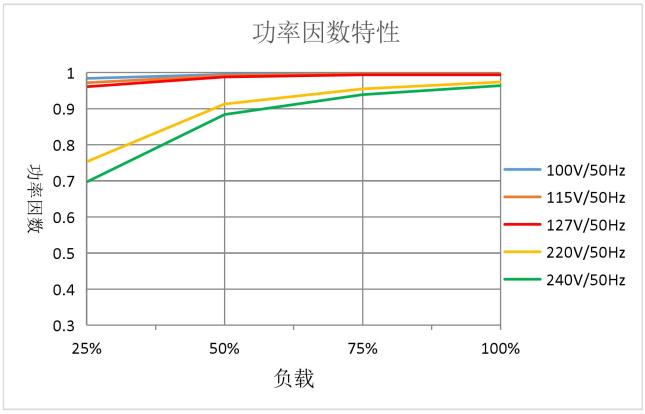


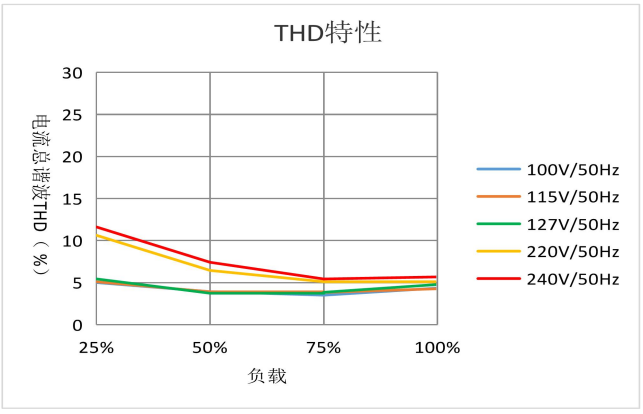


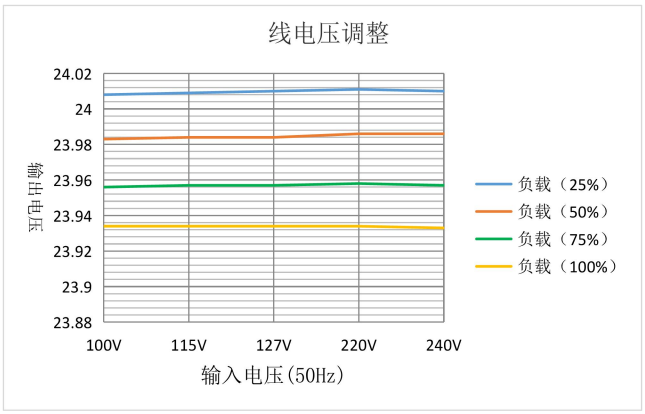
说明		型号
		AD-EL-2401200-DA
输出	额定功率(最大) **备注1**	120W
	直流电压 **备注2**	24V
	额定电流	4A/5A
	电流范围	0 ~4A/5A
	纹波与噪声 **备注3**	(最大)250mVp-p
	电压精度 **备注4**	±3%
	启动时间 **备注5**	≤1.2s
输入	额定输入	100 ~ 240Vac
	电压范围 **备注6**	100 ~ 240Vac@96W，200 ~ 240Vac@120W
	交流频率范围	47~ 63Hz
	功率因数（典型）	0.97@220Vac 50Hz
	THD（满负载）	<10%@220Vac
	满载效率（典型）	＞94%@220Vac（稳定5-10分钟后）
	输入电流（典型）	1.35A / 100Vac 0.6A / 220Vac
	浪涌电流(最大)	冷启动：70A/230Vac
	抗浪涌电压	L-N:2kV
	漏电流(最大)	＜0.7mA / 230Vac
稳定性	线电压调整率 **备注7**	（典型）0.5%
	负载调整率 **备注8**	（典型）0.5%
保护	输入欠压保护	输入低于75±5Vac时，不启动。
	过载保护	触发过载保护后，进入打嗝模式，异常解除后自动恢复工作。
	短路保护	负载短路时，进入打嗝模式，异常解除后自动恢复工作。
	过热保护	外壳（tc）达到110±10℃进入保护，停止工作，直到外壳（tc）降到70 ± 15 °C时自动恢复工作。
环境与寿命	工作温度	-20～+45℃ (请参考"减额应用曲线")。
	工作湿度	20 ~ 85% RH,无冷凝。
	最大外壳温度Tc 最大(℃)	85℃
	标称寿(小时) **备注9**	50000
	储存温度、湿度	-40 ~ +60℃, 10 ~ 85% RH,无冷凝。
安全和电磁兼容	认证测试 **备注10**	通过测试。
连接器	输入和输：螺钉式接线端子	使用时，需要根据所在的国家区域，选用符合相应认证的导线。

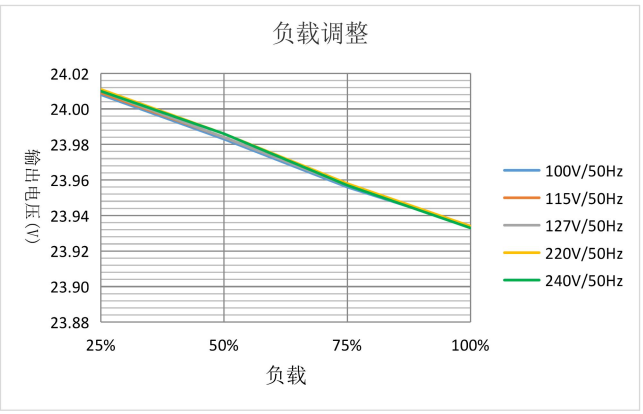
备注	1.负载启动时的瞬时功率应小于电源额定输出功率的1.3倍，长期连续运行功率不应超过电源额定值。建议负载功率在电源额定功率的90%以内。 2.直流电压测量方法:在50%负载条件下,在插座端子点测量。 3.纹波和噪声测量方法：使用一条12"双绞线，同时终端要并联0.1μf和47μf的电容，在20MHZ带宽下进行测量。 4. 精度：包含设定误差、线性调整率和负载调整率。 5.启动时间是在冷机启动下测得，频繁的开关机可能使启动时间增长。 6.低输入电压情况下需减额输出，具体请参照静态特性曲线图。 7.线性调整率测量方法：在额定负载下,从低电压到高电压测试。 8.负载调整率测量方法：在额定电源电压下,从轻载到满载测试。 9.在实际应用时，若外壳最高温度点Tc低于85℃，使用工作寿命大于50000小时。. 10.LED控制装置应视为系统内元件的一部分，不正确的安装方式将导致EMI不通过，需结合终端设备进行电磁兼容相关确认。有关EMI测试操作指导，请参阅相应的认证标准要求进行EMI测试。 如未特别说明，所有规格参数均在输入为220Vac 50Hz、额定负载、25℃/70%RH的环境下进行测量。 不同设备测量的数据可能存在差异，使用前请确认。本规格说明书的最终解释权归本公司所有。

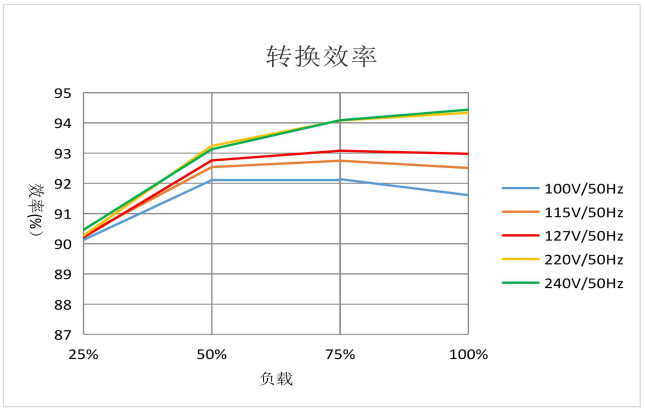
❖ 典型的特性曲线


功率因数特性
功率因数
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
25%
50%
75%
100%
负载
100V/50Hz
115V/50Hz
127V/50Hz
220V/50Hz
240V/50Hz

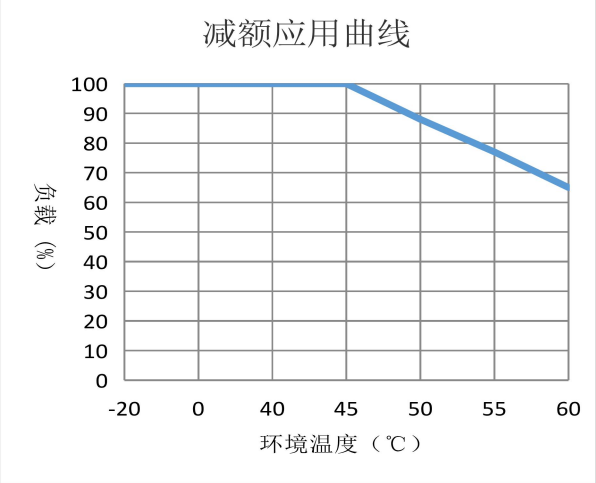

THD特性
电流总谐波THD（%）
30
25
20
15
10
5
0
25%
50%
75%
100%
负载
100V/50Hz
115V/50Hz
127V/50Hz
220V/50Hz
240V/50Hz

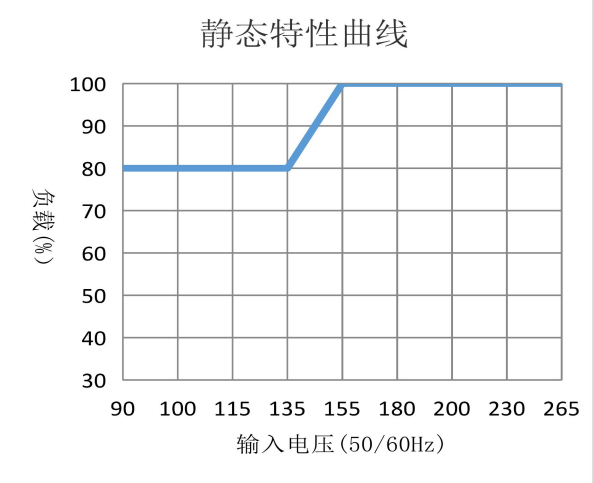

线电压调整
输出电压
24.02
24
23.98
23.96
23.94
23.92
23.9
23.88
100V
115V
127V
220V
240V
输入电压(50Hz)
负载（25%）
负载（50%）
负载（75%）
负载（100%）


负载调整
输出电压(V)
24.02
24.00
23.98
23.96
23.94
23.92
23.90
23.88
25%
50%
75%
100%
负载
100V/50Hz
115V/50Hz
127V/50Hz
220V/50Hz
240V/50Hz


转换效率
效率(%)
95
94
93
92
91
90
89
88
87
25%
50%
75%
100%
负载
100V/50Hz
115V/50Hz
127V/50Hz
220V/50Hz
240V/50Hz

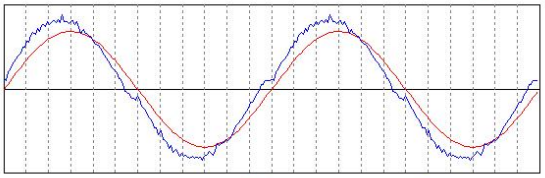
❖ 减额应用


减额应用曲线
100
90
80
70
60
50
40
30
20
10
0
负载（%）
-20
0
40
45
50
55
60
环境温度（℃）

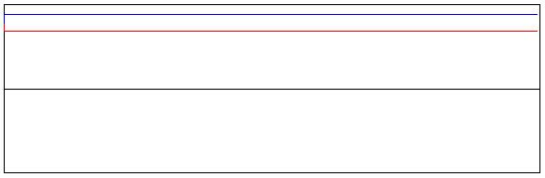

静态特性曲线
100
90
80
70
60
50
40
30
负载(%)
90
100
115
135
155
180
200
230
265
输入电压(50/60Hz)

❖ 典型综合数据

Compositive Characteristic Test Report



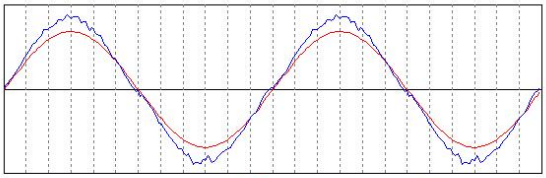
Spectrum k	Voltage %	Current %
2	0.12	0.35
3	0.10	2.99
5	0.22	2.48
7	0.11	2.03
9	0.08	0.55
11	0.11	1.28



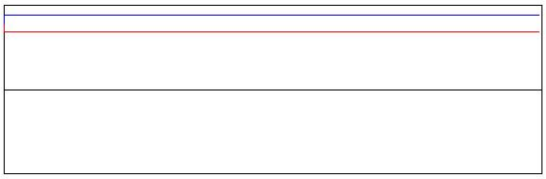
Urms(V)	219.94
Irms(A)	0.5907
P (W)	126.46
PF	0.973
Freq (Hz)	49.978
Irmsw(A)	0.5908
PFw	0.973
CFv	1.42
CFi	1.56
THDU(%)	0.37%(IEC)
THDI(%)	5.31%(IEC)
THDIw(%)	5.55%(IEC)

Ulrms(V)	23.84
Ilrms(A)	5.0012
Pout(W)	119.23
IlrmsAC(A)	0.011
Power Efficient	0.943

Compositive Characteristic Test Report



Spectrum k	Voltage %	Current %
2	0.12	0.15
3	0.32	4.42
5	0.05	1.49
7	0.30	1.15
9	0.35	0.83
11	0.20	0.52

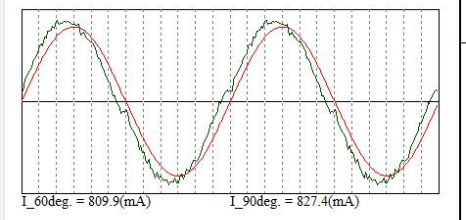


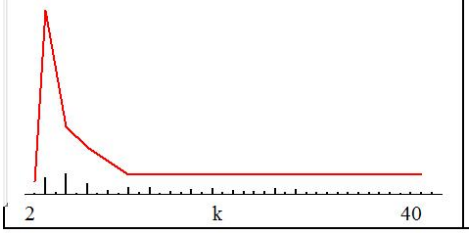
Urms(V)	99.96
Irms(A)	1.3004
P (W)	129.71
PF	0.998
Freq (Hz)	49.980
Irmsw(A)	1.3005
PFw	0.998
CFv	1.42
CFi	1.51
THDU(%)	0.73%(IEC)
THDI(%)	5.51%(IEC)
THDIw(%)	5.67%(IEC)

Ulrms(V)	23.84
Ilrms(A)	5.0013
Pout(W)	119.24
IlrmsAC(A)	0.011
Power Efficient	0.919

Result:PASS — Harmonic Characteristic Test Report — IEC Class C

Urms(V)	Irms(A)	P(W)	PF	DF	I-1(A)	CFi	Ipk(A)	THDI(%)
219.94	0.5909	126.51/126.52	0.974	0.975	0.5900	1.509	0.8916	5.51
THCI(A)	POHCI(A)	Ipk+(deg)	Ipk-(deg)	Imin60_90+(%)	Imin60_90-(%)	Str Phase(deg)	Peak Phase(deg)	End Phase(deg)
0.032	0.010	79.69	79.38	87.95	87.34	0.0	83.9	160.3

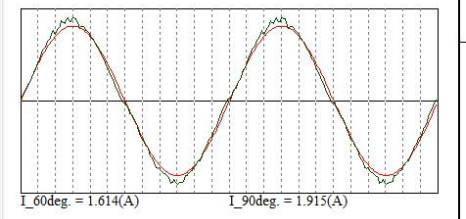


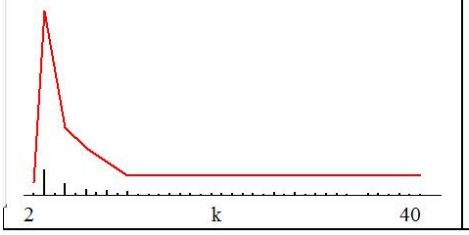


Spectrum k	Value %	Limit %	Spectrum k	Value %	Limit %
2	0.2464	2	3	2.5507	27
			5	3.1515	10
			7	1.6544	7
			9	0.6524	5
			11	1.1171	3
			13	1.1265	3
			15	0.5349	3
			17	0.7467	3
			19	0.94	3
			21	0.6023	3
			23	0.454	3
			25	0.8775	3
			27	0.8583	3
			29	0.3991	3
			31	0.3148	3
			33	0.2901	3
			35	0.3875	3
			37	0.236	3
			39	0.3409	3

Result:PASS — Harmonic Characteristic Test Report — IEC Class C

Urms(V)	Irms(A)	P(W)	PF	DF	I-1(A)	CFi	Ipk(A)	THDI(%)
99.95	1.3006	129.72/129.73	0.998	0.999	1.2990	1.518	1.9751	4.94
THCI(A)	POHCI(A)	Ipk+(deg)	Ipk-(deg)	Imin60_90+(%)	Imin60_90-(%)	Str Phase(deg)	Peak Phase(deg)	End Phase(deg)
0.064	0.015	84.38	85.50	81.73	85.60	2.0	88.6	171.6





Spectrum k	Value %	Limit %	Spectrum k	Value %	Limit %
2	0.358	2	3	3.8377	27
			5	1.7716	10
			7	0.9675	7
			9	0.8102	5
			11	0.6384	3
			13	0.2523	3
			15	0.3183	3
			17	0.4105	3
			19	0.3861	3
			21	0.3135	3
			23	0.2878	3
			25	0.5135	3
			27	0.4504	3
			29	0.3443	3
			31	0.3212	3
			33	0.1354	3
			35	0.3345	3
			37	0.2949	3
			39	0.2374	3

❖ 版本变更声明

版本可能会更新，请按需前往本公司网站下载最新版本。