

Shenzhen Ganpower Electronics Limited		REVISION	A.1
		DATE	2022-07-05
PART NUMBER	G0720-480-050	902-0162-EU00CD	48VDC0.5A

DATA SHEET
 (承认书)
 FOR
24W Gigabit PoE Injector
 (PoE适配器)

Connect Data PN: **902-0162-EU00CD**

CUSTOMER APPROVAL (客户承认)		
CONFIRM (确认)	CHECK (审核)	APPROVAL (批准)

Shenzhen Ganpower Electronics Limited			REVISION	A.1
			DATE	2022-07-05
PART NUMBER	G0720-480-050	902-0162-EU00CD	48VDC0.5A	

1. Scope (适用范围)	5
2. Quote Criterion (引用标准)	5
3. Electrical Characteristic (电气特性)	5
4. Input Characteristics (输入特性)	5
4.1 Rated Input Voltage (额定输入电压)	5
4.2 Input Voltage Range (输入电压范围).....	5
4.3 Rated Frequency (输入频率).....	5
4.4 Frequency Range (输入频率范围).....	6
4.5 Input current (AC 输入电流)	6
4.6 Output Dynamic Response (输出动态响应) :	6
4.7 Turn On Delay Time: (启动延迟时间).....	6
4.8 Overshoot (过冲):.....	6
4.9 Peak Inrush Current (峰值输入电流).....	6
5. Output Characteristics (输出特性)	6
5.1 Rated Output Voltage (输出额定电压)	6
RJ45 网口占用.....	6
5.2 Rated Output Current (额定输出电流)	6
5.3 Rated Power (额定功率)	7
5.4 Efficiency (效率):.....	7
5.5 Voltage Regulation(电压调整率).....	7
5.6 Load Regulation(负载调整率).....	7
5.7 Over Voltage Protection (过压保护)	7
5.8 Hold-Up Time (保持时间)	7
5.9 Rise Time (上升时间)	7
5.10 Output Ripple and Noise (输出纹波、噪音).....	7
5.11 Protection (保护)	7
5.11.1 Over Current Protection (过流保护)	7
5.11.2 Short Circuit Protection (短路保护)	8
5.11.3 Quiescent Consumption(空载功耗).....	8
6. Reliability Items (信赖性项目).....	8
6.1 Electrostatic Discharge (静电).....	8
6.2 Hi-Pot Test (高压测试).....	8
6.3 Insulation Resistance (绝缘电阻).....	8
6.4 Leakage Current (泄漏电流).....	8
6.5 Temperature Rise (温升).....	8
6.6 Continuous Working (连续工作时间).....	8
6.7 Mean Time Between Failure(平均无故障时间).....	9
6.8 EMC Standards (EMC 标准)	9
6.8.1 Electrical Fast Transient Test (电快速脉冲群测试)	9
6.8.2 Surge Immunity Test.....	9
7. Environmental Requirement (环境要求)	9
7.1 Operating Temperature (工作温度)	9
7.2 Storage Temperature (储藏温度)	9

Shenzhen Ganpower Electronics Limited		REVISION	A.1
		DATE	2022-07-05
PART NUMBER	G0720-480-050	902-0162-EU00CD	48VDC0.5A

7.3 Operating Humidity (工作湿度)	9
7.4 Storage Humidity (储藏湿度)	9
8. Mechanical Requirement (机械要求)	10
8.1 Dimension (尺寸)	10
8.2 Weight (重量)	10
8.3 Input plug type (输入插头类型)	10
8.4 Vibration Test Requirement (振动试验)	10
8.5 Bending Test (弯曲强度测试)	10
8.6 Tensile Strength(拉伸强度)	10
8.7 Drop Test (跌落试验)	10
8.8 Plug In and Out Test (插拔实验)	11
8.9 Salty Fog Test for Metal Part (五金件盐雾实验)	11
9. Mechanical Characteristics (机械性能)	11
9.1 Appearance (外观)	11
9.2 Case/Resin Materials (外壳材质)	11
10. Environmental Performances(环境性能)	11
10.1 Operating at the Lower temperature (低温工作实验)	11
10.2 Operating at the High Temperature (高温工作实验)	11
10.3 Storage at the Lower Temperature(低温放置)	12
10.4 Storage at the Higher Temperature (高温放置)	12
10.5 Storage at High Temperature and High Humidity with the Adaptor Turned on(通电高温高湿度放置)	12
10.6 Storage at low Temperature and Low Humidity with the Adaptor Turned on(通电低温低湿度放置)	12
11. Test Equipment List (测试设备清单)	12
12. Picture of the Product (制品外观及外观尺寸图)	13
13. Rating Label Drawing (标贴纸图)	13
14. Packing (包装)	14

Shenzhen Ganpower Electronics Limited			REVISION	A.1
			DATE	2022-07-05
PART NUMBER	G0720-480-050	902-0162-EU00CD	48VDC0.5A	

1. Scope (适用范围)

Single port POE, Midspan

该标准POE设备为单网口输出，采用中跨配置

GIGABIT compliant POE

该POE设备满足千兆网络速率传输

It is widely used in Wireless AP/CPE, Backhaul, 5G Network System, Wi-Fi 6 Device and CCTV

本规格适用于资讯类、视频,安防摄像,监控等领域。

2. Quote Criterion (引用标准)

Meet IEC 60065, IEC60950, UL60950-1,IEC 62368 GB4943 standard requirement.

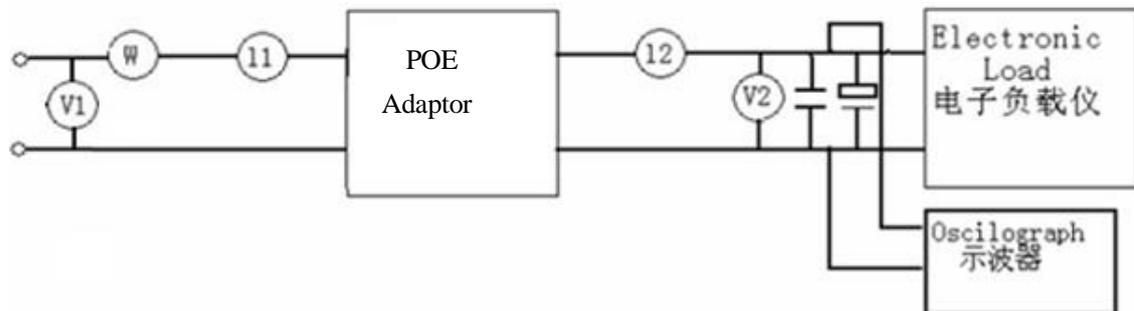
遵循 IEC 60065, IEC60950, UL60950-1, IEC62368 GB4943要求.

3. Electrical Characteristic (电气特性)

Test Circuit (测试电路)

In accordance with the following circuit without special provisions for testing

(无特殊规定的情况下依照下面的电路进行测试.)



4. Input Characteristics (输入特性)

4.1 Rated Input Voltage (额定输入电压)

Rated operating voltage **100Vac** to **240Vac** input AC voltage.

(额定输入交流100V~240V)

4.2 Input Voltage Range (输入电压范围)

Operating voltage range **90Vac** to **264Vac** and the rang, the unit shall work normally..

(输入电压范围交流 90V-264V)

4.3 Rated Frequency (输入频率)

Input rated AC voltage frequency range **50Hz** or **60Hz** and single phase.

(输入频率50Hz/60Hz)

Shenzhen Ganpower Electronics Limited			REVISION	A.1
			DATE	2022-07-05
PART NUMBER	G0720-480-050	902-0162-EU00CD	48VDC0.5A	

4.4 Frequency Range (输入频率范围)

Input AC voltage frequency range **47Hz to 63Hz**.
(输入频率范围47Hz~63Hz)

4.5 Input current (AC 输入电流)

The input current is **750mA (Max)** under minimum ac 90V input and full load.
(90V满载时输入电流 750mA (Max))

4.6 Output Dynamic Response (输出动态响应) :

Dynamic response and recovery time equal or less than 200us;Voltage Tolerance Limit: $\pm 5\%$.
动态响应恢复时间 $\leq 200\mu\text{s}$; 动态过冲不超过 $\pm 5\%$ 。

4.7 Turn On Delay Time: (启动延迟时间)

5 second Max. At **100Vac** input and output Max. Load.
当输入 **100Vac** 和输出最大负载时,最大启动时间为 5 S。

4.8 Overshoot (过冲):

$\pm 5\%$ Max When power supply at turn on or turn off.
在电源开启或关闭的时候,最大 5%。

4.9 Peak Inrush Current (峰值输入电流)

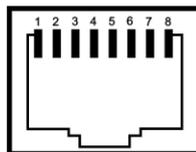
With cold starting, the peak inrush current should less than **70A @230Vac**.
(电源冷启动时最大峰值输入电流小于**70A@230Vac**)

5. Output Characteristics (输出特性)

5.1 Rated Output Voltage (输出额定电压)

The rated output voltage is specified at **48.0V $\pm 5\%$** .
(额定输出电压范围**48.0V $\pm 5\%$** .)

RJ45 网口占用 Pin Assignment



+ (1,2)(4,5) Pins - (3,6)(7,8) Pins

5.2 Rated Output Current (额定输出电流)

The output current will be performed from **500mA**
(额定输出电流**500mA**)

Shenzhen Ganpower Electronics Limited		REVISION	A.1
		DATE	2022-07-05
PART NUMBER	G0720-480-050	902-0162-EU00CD	
			48VDC0.5A

5.3 Rated Power (额定功率)

This adaptor is capable to support **24Watts** continuously at all specified conditions.

Note: the test shall be made under the following conditions, unless otherwise specified:

Ambient Temperature 25°C, Relative Humidity 5~90%RH Air Pressure 86~106kPa

(在无特别指定条件下, 测试温度为25°C、湿度为5~90%RH、气压为86~106kPa)

5.4 Efficiency (效率):

The average efficiency shall be not less than the limits: 86.2%, according to the Energy-Efficiency Level VI

符合DoE & ErP VI级能效平均效率: 86.2%

5.5 Voltage Regulation(电压调整率)

The output voltage regulation shall be $\leq 5\%$

输出电压调整率小于等于5%

5.6 Load Regulation(负载调整率)

The load regulation shall be $\leq 5\%$

负载调整率小于等于5%

5.7 Over Voltage Protection (过压保护)

The adaptor will be automatically self-limited while any component(s) failure and output voltage will be tripped and protected below 65V .

(当元件失效或输出电压超过65V 时, 适配器自动保护)

5.8 Hold-Up Time (保持时间)

5ms Min. At **220Vac** input and output Max. Load.

当输入 **220Vac** 和输出最大负载时大于或等于 5mS。

5.9 Rise Time (上升时间)

Less than or equal to 200ms at **220Vac** input and output Max. Load.

当输入 **220V** 和输出最大负载时上升时间为 $\leq 200\text{ms}$ 。

5.10 Output Ripple and Noise (输出纹波、噪音)

Output ripple voltage is less than 120mV p-p (I=500mA) Measured methods:

Made with an oscilloscope set to 20MHz bandwidth limit, output terminal with 0.1uF ceramic capacitor and 10uF electrolytic capacitor parallel to decouple.

(输出端并0.1uF 与10uF 电容, 限制示波器带宽20MHz 时, 测得纹波小于120mV p-p)

5.11 Protection (保护)

5.11.1 Over Current Protection (过流保护)

Output current will be limited between 600~900mA

Shenzhen Ganpower Electronics Limited		REVISION	A.1
		DATE	2022-07-05
PART NUMBER	G0720-480-050	902-0162-EU00CD	
			48VDC0.5A

输出过流保护电流处于600~900mA 之间;

5.11.2 Short Circuit Protection (短路保护)

The adaptor is protected that a short happened between the output terminals and shall not result in a fire hazard, any damage to this adaptor and will be normal operation automatically while the short is removed.

输出短路后不损坏该制品, 短路撤销后, 恢复正常输出.)

5.11.3 Quiescent Consumption(空载功耗)

The input power should be less than 0.1 Watts at the input voltage range of 115V_{ac} to 230V_{ac} with no-load.

待机功耗≤0.1W.

6. Reliability Items (信赖性项目)

6.1 Electrostatic Discharge (静电)

At 150pF: 330Ω, for each point, 10 shots of direct discharge or air discharge. (1 MΩ/SHOT), have no malfunction. Direct discharge: ±4kV, Air discharge: ±8Kv.

(在接触放电±4kV 和空气中放电±8kV 模式下,各处分别放电10 次无误动作)

6.2 Hi-Pot Test (高压测试)

Primary to Secondary with 3000V_{ac} 5mA 60s for type test and the unit no flash-over or breakdown occurs during the dielectric strength test. (at 25°C)

(在25°C 环境下) AC 输入插头与DC 插头之间加AC3000V 1 分钟, 电流 5mA 最大, 电源不会出现飞弧或击穿.

6.3 Insulation Resistance (绝缘电阻)

At 25°C after DC 500V 1min between input plug- DC plug, insulation resistance 10MΩ min)

(在25°C 环境下, AC 输入插头与DC 插头之间输入DC500V 1分钟后绝缘阻抗在10MΩ 以上)

6.4 Leakage Current (泄漏电流)

3.5mA maximum, at nominal AC input voltage and frequency

(额定交流输入时泄漏电流不得超过3.5mA)

6.5 Temperature Rise (温升)

At 40°C with the rated input 100-240V_{ac} charged to the primary a rated load (I_{out}=500mA) on the secondary, every parts of the case surface temperature is less than or equal to 95°C.

(在恒温40°C 下输入端施加100-240V_{ac} 电压, 输出500mA 负荷的状态下, 外壳表面温度≤ 95°C)

6.6 Continuous Working (连续工作时间)

With the rated voltage charged to the primary and output current 500mA, after continuously work 72 hours in 5%-90%RH condition have no damage.

Shenzhen Ganpower Electronics Limited		REVISION	A.1
		DATE	2022-07-05
PART NUMBER	G0720-480-050	902-0162-EU00CD	48VDC0.5A

(在输入额定电压和输出电流500mA 的条件下, 在相对湿度5%-90%条件下连续工作72小时, 电性正常。)

6.7 Mean Time Between Failure(平均无故障时间)

The adaptor shall be designed and produced to have a mean time between failures (MTBF) of 30000 operating hours confidence-level while operating under the following conditions:80% maximum load at 25°C,nominal input voltage.

Standard: MIL-HDBK-217F

(该适配器在25°C正常输入时,输出为80%最大负载,其平均无故障时间为30000 小时)

6.8 EMC Standards (EMC 标准)

The power supply shall meet the radiated and conducted emission requirements for EN55032 Class B;EN55024; FCC Part 15 Class B,C-tick(AU/NZS CISPR 22 Class B);GB9254,GB17625.1ect.

该电源符合EN55032 Class B;EN55024; FCC Part 15 Class B,C-tick(AU/NZS CISPR 22 Class B);GB9254,GB17625.1等EMC标准

6.8.1 Electrical Fast Transient Test (电快速脉冲群测试)

Tested according to IEC61000-4-4, severity level, level 2:1KV

Performance Criterion: A

依照IEC61000-4-4, 残酷等级:等级2

判据:A

6.8.2 Surge Immunity Test

Tested according to IEC61000-4-5,

differential mode standard; (L-N)+/-2KV

common mode standard:(L-PE,N-PE, LN-PE) +/-4KV

Performance Criterion: A

依照EN61000-4-5, 差模: (+/-2KV); 共模: (+/-4KV)

判据:A

7. Environmental Requirement (环境要求)

7.1 Operating Temperature (工作温度)

-10°C TO 40°C

7.2 Storage Temperature (储藏温度)

-20°C TO +80°C

7.3 Operating Humidity (工作湿度)

10~90% RH. Non-condensing

7.4 Storage Humidity (储藏湿度)

5 ~ 90% RH. Non-condensing

Shenzhen Ganpower Electronics Limited		REVISION	A.1
		DATE	2022-07-05
PART NUMBER	G0720-480-050	902-0162-EU00CD	48VDC0.5A

8. Mechanical Requirement (机械要求)

8.1 Dimension (尺寸)

The nominal external dimensions of the power adaptor are 97.0mm * 53.5mm * 35.5mm

8.2 Weight (重量)

Weight are approx 133 g.

8.3 Input plug type (输入插头类型)

AC Power cord: IEC C5 L=0.6M

8.4 Vibration Test Requirement (振动试验)

Non-operating, with packing) Reference to IEC publ. 68-2-6

(在包装好不工作的情况下实验,具体参照IEC publ. 68-2-6 标准)

Test conditions (测试条件)		Acceptance Criteria (规格)
Frequency (振动频率)	10~55Hz	Nominal functional test should be satisfied after the test (不发生功能损坏的异常情况)
Sweep (振动方式)	2hours, For each axis(X,Y,Z)	
Acceleration (加速度)	0.6G 1.5G (5~50Hz, peak-peak)	
Displacement (振幅)	0.35 mm(5~50Hz)	

8.5 Bending Test (弯曲强度测试)

Fix the adaptor and its plug, apply a load of 300g to the other end, turn the cable by $\pm 60^\circ$ carry out this process 2000 times, at the rate of 20 times per minutes. No abnormality in mechanical and electrical characteristic and disconnection within 30% after the test.

(拉重负载: 300g, 弯曲强度: $\pm 60^\circ$, 次数: 2000 次, 频率: 20 次/分, 测试后性能无异常, 断线率30%以下)

8.6 Tensile Strength(拉伸强度)

Apply a load of 10N to the adaptor side and the connector side for 1 minute, no mechanical damages or other failures, no electrical deterioration and other failures comparing to before test condition.

(对连接器端施加10N 1 分钟后与实验前状态比较, 没有机械破坏等, 且不出现电器性能损坏)

8.7 Drop Test (跌落试验)

Drop the adaptor from a height of 1M onto 20mm thick hardwood floor, hitting the adaptor for 3 times, no mechanical damages or other failures, no electrical deterioration and other failures comparing to before test condition.

(制品从1M 处落下3 次, 落下的方向任意, 落在20mm 厚的硬木地板上, 实验后与实验前状

Shenzhen Ganpower Electronics Limited		REVISION	A.1
		DATE	2022-07-05
PART NUMBER	G0720-480-050	902-0162-EU00CD	48VDC0.5A

态比较没有机械破损等不良状况,且不出现电器性能损坏)

8.8 Plug In and Out Test (插拔实验)

After plug the connector in(30N max) and out(10-50N) the female-connector for 10 times, then plug in and out for 3000 times, light damage in the mechanic characteristic, but no abnormality in electric characteristic.

(插头与连接器经正常插拔10次, 插头每次插入力度不大于30N, 拔出在10-50N 之间后持续插拔3000次。外观允许有轻度损伤, 但导通性能良好)

8.9 Salty Fog Test for Metal Part (五金件盐雾实验)

Experiment condition, Salty water thickness: 5%, Equipment Temperature: 35~40°C, put the adaptor(unpacking)in the test equipment for 24h, after 24h recovery at 25°C checking the appearance, the metal parts have no erode and rust.

(盐雾试验要求: 调制(工业盐)盐水的浓度为5%, 设备温度设置为35~40°C, 适配器不包装, 放入盐雾试验设备中持续喷雾8小时, 试验结束后取出, 在常温下搁置8小时, 再检查适配器外观: 要求外露金属及电镀件不生锈。)

9. Mechanical Characteristics (机械性能)

9.1 Appearance (外观)

Visual inspection the case have no visual abnormality, no obvious nick, burr and other mechanical damage, outer metal have no rust. Use limit sample to check for any failures.

(目视检查, 无外观异常, 表面无明显划痕、毛刺及其它机械损伤, 外露金属部分无锈, 其它限度根据样品确认。)

9.2 Case/Resin Materials (外壳材质)

Flame retardant-grade compliance with UL94 V-0

(阻燃性符合UL94 V-0)

10. Environmental Performances(环境性能)

10.1 Operating at the Lower temperature (低温工作实验)

At 0±2°C, with the rated voltage 100-240Vac charged to the primary and unloaded and full load on the secondary, no abnormality in electric and mechanical characteristic, after 4 hours recovery at the room temperature.

(环境温度0±2°C, 在输入端施加额定电压100-240Vac 输出端无负荷与满载状态下, 试验后常温放置4小时, 无特性异常)

10.2 Operating at the High Temperature (高温工作实验)

At 40±2°C, with the rated voltage100-240Vac charged to the primary and unloaded and full load on the secondary. No abnormality in electric and mechanical characteristic after 4 hours recovery at the room temperature.

(环境温度40±2°C, 在输入端施加额定电压100-240Vac 输出端无负荷与满载状态下, 试验后常温放置4小时, 无特性异常)

Shenzhen Ganpower Electronics Limited			REVISION	A.1
			DATE	2022-07-05
PART NUMBER	G0720-480-050	902-0162-EU00CD	48VDC0.5A	

10.3 Storage at the Lower Temperature(低温放置)

At $-20\pm 2^{\circ}\text{C}$, test of non-operated, No abnormality in electric and mechanical characteristic after 4 hours recovery at the room temperature.

(在 $-20\pm 2^{\circ}\text{C}$ 非工作状态下进行试验, 试验后常温放置4 小时后测试无异常)

10.4 Storage at the Higher Temperature (高温放置)

At $80\pm 2^{\circ}\text{C}$, test of non-operated, No abnormality in electric and mechanical characteristic after 4 hours recovery at the room temperature.

(在 $80\pm 2^{\circ}\text{C}$ 非动作状态下进行试验, 试验后常温放置4 小时后测试无异常)

10.5 Storage at High Temperature and High Humidity with the Adaptor

Turned on(通电高温高湿度放置)

At 40°C , $90\sim 95\%RH$, operating at power supplied (100-240Vac) and unloaded and full load on the secondary, no abnormality in electric and mechanical characteristic, after 4 hours recovery at the room temperature.

(在 40°C , $90\sim 95\%RH$, 加电状态下, 试验后常温放置4 小时测试无异常)

10.6 Storage at low Temperature and Low Humidity with the Adaptor

Turned on(通电低温低湿度放置)

At 0°C , $35\sim 40\%RH$, operating at power supplied (100-240Vac) and unloaded and full load on the secondary, no abnormality in electric and mechanical characteristic, after 4 hours recovery at the room temperature.

(在 0°C , $35\sim 40\%RH$, 加电状态下, 试验后常温放置4 小时测试无异常)

11. Test Equipment List (测试设备清单)

(项目)	(设备)	(制造)	(型号)
1	(AC 变频电源)	艾诺	AN97001HSS
2	(示波器)	TEK	TDS1012B
3	(电子负载仪)	Chroma	63103
4	(万用表)	Fluke	Fluke 187
5	(功率计)	威博	PF1200
6	温度表	CENTER	304
7	电磁干扰机	BEI JINGKEHJAW	KH3925
8	恒温恒湿机	爱斯佩克	EL-04KA
9	振动测试仪	重力	NY2001D
10	数据采集器	Agilent	34970A
11	插头引线弯拆试验机	奥斯达	CM-817
12	推力器	ALGOL	20KGF 200N
13	数显卡尺	上工	200mm

Shenzhen Ganspower Electronics Limited			REVISION	A.1
			DATE	2022-07-05
PART NUMBER	G0720-480-050	902-0162-EU00CD	48VDC0.5A	

12. Picture of the POE (制品外观及外观尺寸图)



13. Rating Label Drawing (标贴纸图)



Shenzhen Ganpower Electronics Limited		REVISION	A.1
		DATE	2022-07-05
PART NUMBER	G0720-480-050	902-0162-EU00CD	48VDC0.5A

14、Packing (包装)

