



规格书

SPECIFICATION

CUSTOMER NAME	客户名称:	
CUSTOMER NO.	客户编号:	
SERIES	系 列:	电源旋转开关
MODEL NO.	型 号:	XB-MFR01-A2M02L5S-R
DRAWING NO.	图 形 号:	Power Rotary Switch

If specification of this product meets your request, please confirm all the items of it and return to us with signature and stamp, it will be basis of our production and record. Thanks your cooperation in advance!

若此产品规格符合贵司要求，敬请确认此规格书内所有项目
并签名和盖章后回传给我司，以作我司产品制作之

依据和存档之用，多谢合作！

EXAMINE & APPROVAL 审批

APPROVE 接受	NOT APPROVE 不接受
SIGNATURE 签署 STAMP 盖章 DATE 日期	

PREPARED BY.制表人	CHECKED BY.校对	APPROVED BY.审核	APPROVAL BY.批准
研发部	品质部	工程部	总经办
戴海明	黄自清	庞军	吴量
2022. 06. 08	2022. 06. 08	2022. 06. 08	2022. 06. 08

东莞市溪榜电子有限公司

Dong guan Xi Bang Electronics Co., Ltd

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Dong Guan XB ElectronicsCo., Ltd

AccountNumber: 705540238

BankName: CitibankN.A., HongKongBranch

Country/Region: Hong Kong

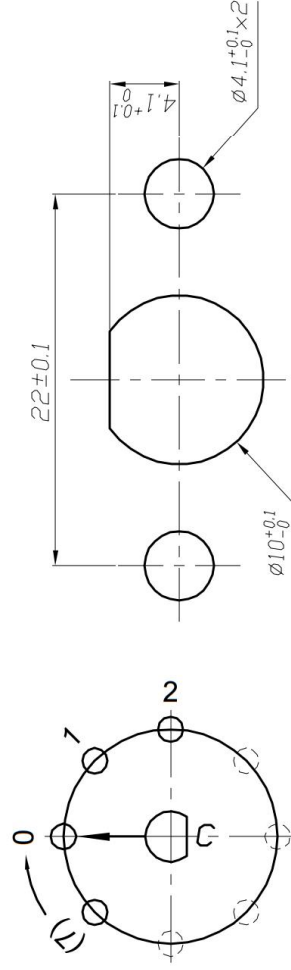
BankCode:006

BankAddress: 3GardenRoad, Central, Hong Kong

SWIFT/BIC: CITIHKHX (CITIHKHXXXX*If 11 characters are required)

MAiL: HK@ALPSR. CN XB@ALPSR. CN XB@ALPSR. COM

Quality core! Afterburner for Made in China!



- ## PANEL CUTOUT

Circuit diagram

8							TOLERANCE UNLESS SPECIFIED					
7												
6							WITHIN 1.5mm : ±0.1mm OVER 1.5mm : ±0.2mm	A	2012-9-25		初 版	ZENQ. CHEN
5								ISSUE	DATE		DESCRIPTIONS OF REVISION	APPD.
4	CONTACT	SUS			1	Ag CLAD	TITLE : 电源旋转开关					
3	CASE	PPA/BRASS SRTP			1	BLACK/Ag PLATED	MODEL: Power Rotary Switch					
2	COVER	STEEL STRIP			1	Ni PLATED	SCALE: 5:1					
1	KNOB	PPA			1	BLACK	UNIT : mm					
NO.	PARTS	MATERIALS			Q'TY	FINISH	 东莞市溪榜电子有限公司 DONG GUAN XI BANG ELECTRONI CS CO., LTD.					
							DWN.	JUN. YANG	2012-9-25			
							CHK'D	DONG. PANG	2012-9-25			
							APPD.	ZENQ. CHEN	2012-9-25			



东莞市溪榜电子有限公司
DONG GUAN XI BANG ELECTRONICS CO., LTD
ROTARY POWER SWITCH TEST
SPECIFICATION
旋转式开关测试规格
MODEL NO. XB-MFR01SERIES

1. Application temperature range (适用温度范围): 0~125℃

2. Test condition (测试环境):

The switch is tested at a temperature range of 5~35℃ and relative humidity range of 45~85%.

* 环境温度范围 : 5 ~ 35℃

* 相对湿度范围 : 45 ~ 85%

3. Rating (额定):

8A 125/250VAC FOR UL/C-UL

12A-8(3)A 250V~ μT125/55 for EUROPEAN SAFETY (ENEC)

4. Electric performance (电气性能):

4-1. Contact resistance (接触电阻):

Measured by fall-of-potential method at dc 0.2v/1a should be less than 50mΩ initial.

* 以微电阻计在 **DC 0.2V/1A** 的测试规格值下, 接触电阻值应该小于 **50mΩ**

4-2. Insulation resistance (绝缘电阻):

Measured with dc 500v applied between terminals of open contacts and between terminal of opposite polarity or metal part, should be more than 100MΩ.

* 绝缘电阻计于 **DC 500V 设定值**下量测于开路的端子或不同回路的端子, 其绝缘电阻值应该大于 **100MΩ**.

4-3. Dielectric strength (耐电压):

The switch shall withstand without breakdown a potential of ac 1500v 0.5mA for 1 minute between terminals of open contacts and terminals of opposite polarity or metal part.

* 不同极的两支端子开路时, 必须通过一分钟 0.5mA 1500VAC 的耐电压.

* 端子与其他零件, 必须通过一分钟 0.5mA 1500VAC 的耐电压.

5. Overload and endurance test (过负载与寿命测试):

UL & CSA STANDARD (北美标准)

RATING: 8A 125/250VAC

CONDITION 测试状况	VOLTAGE 测试电压	CURRENT 测试电流	P.F. 功率因素	OPERATION SPEED 操作速率	NUMBER OF OPERATION 操作次数	SAFETY APPLICATION 适用安规
OVERLOAD 过负载	125VAC	12A	0.75~0.8	8 CYCLES PER MINUTE 每分钟 8 次	50 CYCLES 50 次	UL/C-UL (UL1054)
	250VAC					
ENDURANCE 寿命测试	125VAC	8A	0.75~0.8	8 CYCLES PER MINUTE 每分钟 8 次	6000 CYCLES 6000 次	UL/C-UL (UL1054)
	250VAC					

EUROPE STANDARD (欧洲安规)

RATING: 12A-8(3)A 250V~ μ T125/55

INCREASED VOLTAGE TEST AT ACCELERATED SPEED (增加伏特数的加速测试)

CONDITION 测试状况	VOLTAGE 测试电压	CURRENT 测试电流	P.F. 功率因素	OPERATION SPEED 操作速率	NUMBER OF OPERATION 操作次数	SAFETY APPLICATION 适用安规
MAKING 闭路	287.5VAC	18A	0.6	15 CYCLES PER MINUTE 每分钟 15 次	100 CYCLES 100 次	ENEC (IEC61058)
BREAKING 开路		12A	0.95			

TEST AT LOW SPEED (低速测试)

MAKING 闭路	250VAC	18A	0.6	15 CYCLES PER MINUTE 每分钟 15 次	100 CYCLES 100 次	ENEC (IEC61058)
BREAKING 开路		12A	0.95			

TEST AT ACCELERATED SPEED (加速测试)

MAKING 闭路	250VAC	18A	0.6	15 CYCLES PER MINUTE 每分钟 15 次	9800 CYCLES 9800 次	ENEC (IEC61058)
BREAKING 开路		12A	0.95			

6. Temperature test (温升试验):

The temperature test should be taken after endurance test with its rated current and voltage.

The temperature rising shall not be more than 55°C.

* 温升测试应该于寿命测试结束后随即测试, 以同样的电流与电压量测温升, 温升值必须低于摄氏 55°.

7. Mechanical performance (机械性能):

7-1. OPERATION FORCE (操作力量):

NON—PULSE(不回弹): 1000gf ±300gf PULSE(回弹): 2000gf±500gf

7-2. Actuator strength (柄的强度) :

A static load of 5 kgf being applied in the operation direction for 15 seconds. There shall not be any troubles as deviation and bending.

* 以 5Kgf 的力量, 施压 15 秒. 不可以有偏向与弯曲的情形.

7-3. Falling test (落下实验):

Switch be falling down free from 1 meter high. Terminals maybe have bent and deviation after test. But testing object should not have mechanical and electrical damage.

- 将开关由一公尺的高度自由落下, 端子也许已经弯曲与偏向, 但是开关本体不可以有机构与电气性能的破坏.

7-4. SOLDERING(焊锡特性):

IMMERSE THE TERMINAL LEADS INTO MOLTEN SOLDER AT TEMPERATURE OF $230\pm5^{\circ}\text{C}$ FOR 3 ± 0.5 SECONDS. MORE THAN 75% OF PART IMMERSSED SHOULD BE COVERED WITH SOLDER.

* 端子浸入 $230\pm5^{\circ}\text{C}$ 温度溶化的焊锡中 3 ± 0.5 秒, 75%以上的部分应该被焊锡包覆.

7-5. TERMINAL STRENGTH (端子强度):

A STATIC FORCE OF **2.27 KGF** BEING APPLIED IN ONE DIRECTION ON THE TIP OF THE TERMINAL FOR 1 MINUTE. THE TERMINAL MAY BE DEFORMED, BUT SHALL NOT SUSTAIN ANY TROUBLE AS DEVIATION AND BREAKING OF TERMINAL, AND BREAKING OF INSULATION MATERIAL.

* 施以固定 2.27Kgf 的力量于同一方向在端子的顶端一分钟, 端子允许变型, 但是不可以有任何位移(偏向)与端子断裂及绝缘材料的破裂.

7-6. SOLDERING HEAT RESISTANCE OF BASE (基座抗热性):

TEMPERATURE AND DURATION OF DIPPING 焊锡温度与持续时间

TYPE OF TERMINAL 端子型式	TEMPERATURE 温度	DIPPING TIME 焊锡时间
TERMINAL FOR PCB WIRING * PCB 端子	$260\pm5^{\circ}\text{C}$	5 SECONDS Max.
TERMINAL FOR LEAD WIRING * 焊线端子	$350\pm5^{\circ}\text{C}$	3 SECONDS Max.

THERE SHALL NOT BE EXTREME DEFORMING IN APPEARANCE.

ELECTRICAL PERFORMANCE OF THE ABOVE ITEM 3 SHALL BE ASSURED.

* 基座不可以有极度变形状况发生.

* 上文第 3 项的电子性能应该被保证.

8. Step angle (切换角度)

36°、45°

9. NOTICE(开关使用注意事项):

9-1. When welding, any pressure applied to the terminals may cause conditions as looseness, deformation of terminals and electrical degradations.

给端子进行焊接时，如果在端子上施加负荷，因条件不同会有松动、变形、及电特性退化的可能，请在使用时注意。

9-2. When welding, water-soluble flux may causes corrosion to switches.

For second time welding job, please proceed welding after it is recovered to room temperature.
进行二次焊接时，请在第一次焊接部份恢复到常温之后再行进行。连续加热可能使外围部变形、端子松动，脱落及电特性降低。

9-3. Continuous heating may cause loose off, deformation of terminals and electrical degradations.

焊接时，水溶剂助焊剂有可能腐蚀开关的可能，请避免使用。

9-4. Do not clean it with water.

不能用水清洗

9-5. After final assembly as a completed product, please make sure that there's no erosion gas/materials released from peripheral parts/materials as it may causes contact failure of switches.

如果使用开关的整机的周边材料产生腐蚀性气体，有可能造成接触不良等现象，所以请事先进行充分确认。

9-6. Storage,

保管方法

a. Keep it storage under normal temperature, humidity and prevent from direct sunshine, erosion gas. Products sure be used within 6 months.

产品以交货时的状态在常温，常湿，不受直射阳光照射，不产生腐蚀性气体的场所保管，自交货起 6 个月以内为限度，请尽可能快的使用。

b. For small quantity which taken from main packages, please keep it in plastic bags and sealed. And have it storage under up-mentioned environment.

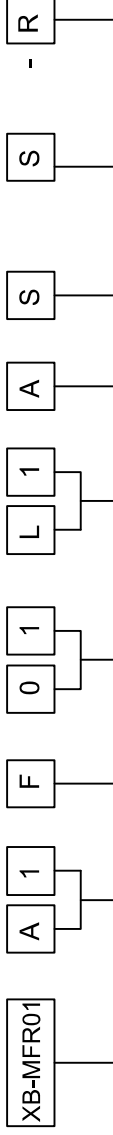
开封后用塑料袋与外界气体隔断，请在与上述相同环境下保管，并尽快使用。

c. Do not pile up package more than 2 levels.

请不要过分地堆积。

修订日期 REVISED DATE	修订内容 DESCRIPTION	修订者 REVISED BY	文件编号 FILE NO.	制 定 WRITE BY	审 核 CHECKED BY	核 准 APPROVED BY
2023/6/6	修改端子焊线时间	唐彪	SPEC-006	阮霓展	路建宏	高鹏
2023/6/6	将操作力由 1600 ±500 gf 修改为 1800 ±300gf	易雅琦	版 次 VERSION			
2023/6/6	将 4.1 接触电阻 20mΩ修改为 50mΩ	唐彪	B 版 1 次			

website: www.alpsr.cn www.alpsr.com www.xbswitch.com www.gdxjdz.com



产品系列
Series

旋转角度 Step angle	
A1	$\varnothing 32$ 36° C16P2B/B16P2B
A2	$\varnothing 32$ 45° C22P2B/B21P2B
A3	$\varnothing 32$ 36° (螺纹加高) C17P2B/B16P2B
A4	$\varnothing 29$ 30° MF101-C0PA/MF101-00PA
A5	$\varnothing 29$ 45° MF101-C0PA/MF101-00PA

功能类型	
Function type	
F	起始阶段A, 无四阶图
M	右边第n阶的弹弓
A	右边第n阶的弹弓
B	左右两边第n阶的弹弓
G	起始阶段A/从A开始, 无四阶图

		柄的形状 Shaft Type	
	适用于φ32外径 適用于φ32外径	适用于φ26外经 適用于φ26外徑	
L1	A27P2B 	MFR01-KDPA-400 	L7
L2	A38P2B 	MFR01-KGPPA-400 	L8
L3	A27V2B 	MFR01-KDPA-400 	L11
L4	A68P2B 	MFR01-KJPA-400 	L13
L5	A38V2B 	MFR01-KKPA-400 	L14
L6	MFR01-KBPAA-1000 	MFR01-KLPAA-1000 	L20
L9	MFR01-KGPAA-400 	MFR01-KMPPA-400 	L21
L10	MFR01-KFPA-400 	MFR01-KNPPA-400 	L22
L12	MFR01-KDPA-400 	MFR01-KGPPA-400 	
L15	MFR01-KOPAA-400 		
L16	MFR01-KPPAA-400 		

基座类型	Housing type	e32 外径 45° 带耳套	
		A	B

[illegible]

特殊说明	
R	常规
N	不点红胶
H	附带帽子
F	∅.95线径弹簧
G	附带旋钮帽
A	扭力为1000kg
B	PA66+30%GF
	不点红胶不点AA胶

