

承 認 書

SPECIFICATION FOR APPROVAL

*客戶名稱
Customer name : 立创商城

*產品名稱
Product Description : 按键式电源开关SPST ThroughHole

*產品型號
Product part number : MPS11-PC180-R

*客戶料號
Customer's material number : C309201

*數量
Quantity : 0PCS

*日期
Date : 2019-1-16

供應商負責人簽名		客戶負責人確認簽回
製作人	莫丽琴	承認人
審核	李跃鑫	審核
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Approved

LEGION ELECTRONIC & HARDWARE CO., LTD.

ROTARY SWITCH TEST SPECIFICATION

按鍵式開關 測試規格

MPS11 SERIES SWITCHES TEST SPECIFICATIONS

1. APPLICATION (適用產品):

THIS SPECIFICATION IS APPLIED TO POWER SWITCHES USED FOR ELECTRONIC EQUIPMENT.

* 這份規格適用於電子產品的電源開關。

2. OPERATING TEMPERATURE RANGE (操作溫度範圍):

TEMPERATURE RANGE 0~85°C * 溫度範圍 0~85°C

SAVEING TEMPERATURE RANGE (保存溫度範圍):

TEMPERATURE RANGE -30~85°C * 溫度範圍 -30~85°C

2. TEST CONDITION (測試環境):

THE SWITCH IS TESTED AT A TEMPERATURE RANGE OF 5~35°C AND RELATIVE HUMIDITY RANGE OF 45~85%.

* 環境溫度範圍 : 5 ~ 35°C

* 相對濕度範圍 : 45 ~ 85%

3. RATING (額定):

(1) . 10A 250VAC; 16A 125VAC FOR C-UL

(2) . TV-5 FOR C-UL

(3) . 5A/80A 250V~ μ T85 FOR ENEC10/VDE/NEMKO/CQC

(4) . 12A 250VAC FOR CQC

4. ELECTRICAL PERFORMANCE (電氣性能):

5-1. CONTACT RESISTANCE (接觸電阻):

MEASURED BY FALL OF POTENTIAL METER AT DC 0.2 V/1A SHOULD BE LESS THAN **20m Ω** INITIAL.

* 以微電阻計在 **DC 0.2V/1A** 的測試規格值下, 接觸電阻值應該小於 **20m Ω**

5-2. INSULATION RESISTANCE (絕緣電阻):

MEASURED WITH DC 500V APPLIED BETWEEN TERMINALS OF OPEN CONTACTS AND BETWEEN TERMINALS OF OPPOSITE POLARITY, SHOULD BE MORE THAN **100M Ω** .

* 絕緣電阻計於 **DC 500V** 設定值下量測於開路的端子或不同迴路的端子,

其絕緣電阻值應該大於 **100M Ω** .

5-3. DIELECTRIC STRENGTH (耐電壓):

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, **AC 3000V** 0.5mA FOR 1 MINUTE BETWEEN TERMINALS AND METAL

COVER.

- * 不同極的兩支端子開路時，必須通過一分鐘 0.5mA 1500VAC 的耐電壓。
- * 端子與金屬外殼，必須通過一分鐘 0.5mA 3000VAC 的耐電壓。

5. OVERLOAD AND ENDURANCE TEST (過負載壽命測試):

THE SWITCH SHALL BE OPERATED ACCORDING TO FOLLOWING TABLE

- * 開關應該依照下列表格的操作方式進行測試。

C-UL STANDARD (北美標準)

CONDITION 測試狀況	VOLTAGE 測試電壓	CURRENT 測試電流	P.F. 功率因素	OPERATION SPEED 操作速率	NUMBER OF OPERATION 操作次數	SAFETY APPLICATION 適用安規
OVERLOAD 過負載	125VAC	20A	0.75~0.8	8 CYCLES PER MINUTE 每分鐘 8 次	50 CYCLES 50 次	UL/CSA
	250VAC	15A				
	125VAC	7.5/111A				
ENDURANCE 壽命測試	125VAC	16A	0.75~0.8	8 CYCLES PER MINUTE 每分鐘 8 次	6000 CYCLES 6000 次	UL/CSA
	250VAC	10A				
	125VAC	5A/78A	TV-5			
CONTINUED ENDURANCE 持續電器壽命	125VAC	5A/78A	TV-5	8 CYCLES PER MINUTE 每分鐘 8 次	15000 CYCLES 15000 次	UL/CSA

EUROPE & CQC STANDARD (歐洲 & CQC 標準)

INCREASED VOLTAGE TEST AT ACCELERATED SPEED (增加伏特數的加速測試)

CONDITION 測試狀況	VOLTAGE 測試電壓	CURRENT 測試電流	P.F. 功率因素	OPERATION SPEED 操作速率	NUMBER OF OPERATION 操作次數	SAFETY APPLICATION 適用安規
MAKING 閉路	287.5VAC	80A	0.95	30 CYCLES PER MINUTE 每分鐘 30 次	100 CYCLES 100 次	VDE/NEMKO /CQC
		5A	0.95	15 CYCLES PER MINUTE 每分鐘 15 次		
BREAKING 開路	287.5VAC	13.8A	0.95	15 CYCLES PER MINUTE 每分鐘 15 次	100 CYCLES 100 次	CQC

TEST AT LOW SPEED (低速測試)					
MAKING 閉路	80A	0.95	30 CYCLES PER MINUTE 每分鐘 30 次	100 CYCLES 100 次	VDE/NEMKO /CQC
		0.95			
BREAKING 開路	12A	0.95	15 CYCLES PER MINUTE 每分鐘 15 次	CQC	CQC
		0.95			
TEST AT ACCELERATED SPEED (加速測試)					
MAKING 閉路	80A	0.95	30 CYCLES PER MINUTE 每分鐘 30 次	9800 CYCLES 9800 次	VDE/NEMKO /CQC
		0.95			
BREAKING 開路	12A	0.95	15 CYCLES PER MINUTE 每分鐘 15 次	CQC	CQC
		0.95			
<p>6. TEMPERATURE TEST (溫升試驗) : 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. 溫升測試應於壽命測試結束後隨即測試，以同樣的電流與電壓量測，溫升值必須低於攝氏 55°.</p>					
<p>7. MECHANICAL PERFORMANCE (機械性能):</p> <p>8-1. OPERATION FORCE (操作力量): 500gf±200gf (Or 400 gf±150gf) A STATIC FORCE BEING APPLIED IN ONE DIRECTION ON THE TIP OF ACTUATOR. PERFORMANCE AS PER INDIVIDUAL SPECIFICATIONS. * 固定的力量運用於同一方向在柄的頂端，依照個別開關的特性實行.</p> <p>8-2. STOPER STRENGTH (柄的強度): A STATIC LOAD OF 8 Kgf BEING APPLIED IN THE OPERATION DIRECTION FOR 15 SECONDS. A STATIC LOAD OF 4 Kgf BEING APPLIED IN THE DIRECTION OF PULLING FOR 15 SECONDS. THERE SHALL NOT BE ANY TROUBLES AS DEVIATION AND BENDING. * 以 8Kgf 的力量，沿柄軸向方向施壓 15 秒以及以 4Kgf 的力量，拉 15 秒（開關允許在 ON 狀態下）。不</p>					

可以有偏向與彎曲的情形；以 4Kgf 力量，垂直柄方向施壓，柄允許彎曲但不可斷裂。

8-3. SOLDERING (焊錫特性):

IMMERSE THE TERMINAL LEADS INTO MOLTEN SOLDER AT TEMPERATURE OF $230\pm 5^{\circ}\text{C}$ FOR 3 ± 0.5 SECONDS. MORE THAN 75% OF PART IMMersed SHOULD BE COVERED WITH SOLDER.

* 端子浸入 $230\pm 5^{\circ}\text{C}$ 溫度溶化的焊錫中 3 ± 0.5 秒，75% 以上的部分應該被焊錫包覆。

8-4. TERMINAL STRENGTH (端子強度):

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 的力量於同一方向在端子的頂端一分鐘，端子允許變形，但是不可以有任何位移(偏向)與端子斷裂及絕緣材料的破裂。

8-5. SOLDERING HEAT RESISTANCE OF BASE (基座抗熱性):

TEMPERATURE AND DURATION OF DIPPING 焊錫溫度與持續時間

TYPE OF TERMINAL 端子型式	TEMPERATURE 溫度	DIPPING TIME 焊錫時間
TERMINAL FOR PCB WIRING * PCB 端子	$260\pm 5^{\circ}\text{C}$	8 SECONDS Max.
TERMINAL FOR LEAD WIRING * 焊線端子	$350\pm 5^{\circ}\text{C}$	5 SECONDS Max.

THERE SHALL NOT BE EXTREME DEFORMING IN APPEARANCE.

ELECTRICAL PERFORMANCE OF THE ABOVE ITEM 3 SHALL BE ASSURED.

* 基座不可以有極度變形狀況發生。

* 上文第 3 項的電子性能應該被保證。

8. ENVIRONMENTAL TEST (環境實驗):

ITEM 項目	TEST CONDITIONS 測試狀況	CRITERIA 標準
COLD PROOF 耐寒	SWITCH FOR TESTING BEING KEPT IN THE CONDITIONS AT $-20\pm 2^{\circ}\text{C}$ IN THE TEMPERATURE FOR 96 HOURS AND IN A NORMAL AMBIENT CONDITION FOR ONE HOUR, THEN TO BE MEASURED WITHIN ONE HOUR. DROPS OF WATER BEING TAKEN AWAY. * 置於 $-20\pm 2^{\circ}\text{C}$ 的環境溫度中 96 小時，然後再置於常溫中 1 小時後，水滴揮發後，在 1 小時內量測。 (標準如右)	CONTACT RESISTANCE (接觸 電阻): ITEM 5-1 INSULATION RESISTANCE (絕緣電阻):

<p>HOT PROOF 耐熱</p>	<p>SWITCH FOR TESTING BEING KEPT IN THE CONDITIONS AT 85±2°C IN TEMPERATURE FOR ONE HOUR, THEN TO BE MEASURED WITHIN ONE HOUR. * 置於 85±2°C 的環境中 1 小時，然後在 1 小時內量測。 (標準如右)</p>	<p>ITEM 5-2 VOLTAGE PROOF (耐電壓): ITEM 5-3 NO DIELECTRONIC BREAKDOWN SHALL OCCUR OPERATION FORCE (無耐電壓破壞操作發生): ITEM 8-1</p>
<p>RESISTANCE TO HUMIDITY 耐濕</p>	<p>SWITCH FOR TESTING BEING KEPT IN THE CONDITIOAS AT 40±2°C IN TEMPERATURE AND 90~95% RH FOR 96 HOURS, AND IN A NORMAL AMBIENT CONDITIONS FOR ONE HOUR, THEN TO BE MEASURE WITHIN ONE HOUR. DROP OF WATER BEING TAKEN AWAY * 置於 40±2°C的環境溫度及 90~95%的相對濕度中 96 小時，然後再置於常溫中 1 小時，水滴揮發後，在 1 小時內量測。(標準如右)</p>	<p>WITHIN +10-30% SPECIFIED VALUE. THERE SHALL BE NO DEFECTS IN APPERANCE OR IN THE MECHANICAL FUNCTIONS * 在 +10-30% 的規格值之內，其外觀與機械性能不可有影響。</p>

9. NOTICE(開關使用注意事項)：

10-1. When welding, any pressure applied to the terminals may cause conditions as looseness, deformation of terminals and electrical degradations.
給端子進行焊接時，如果在端子上施加負荷，因條件不同會有鬆動、變形、及電特性退化的可能，請在使用時注意。

10-2. 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.
進行二次焊接時，請在第一次焊接部份恢復到常溫之后再進行。連續加熱可能使外圍部變形、端子鬆動，脫落及電特性降低。

10-3. Continuous heating may cause loose off, deformation of terminals and electrical degradations.

焊接時，水溶劑助焊劑有可能腐蝕開關的可能，請避免使用。

10-4. Do not clean it with water.

不能用水清洗

10-5. Before take off knobs form switches, please make sure the switch is at it's "OFF" position to avoid mechanical failure.

裝卸旋鈕時，請在解除自鎖的狀態下進行。在鎖住的狀態下進行，自鎖機構部會有變形的可能。

10-6. 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.

如果使用開關的整機的周邊材料產生腐蝕性氣體，有可能造成接觸不良等現象，所以請事先進行充分確認。

10-7. Storage, 保管方法

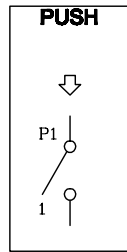
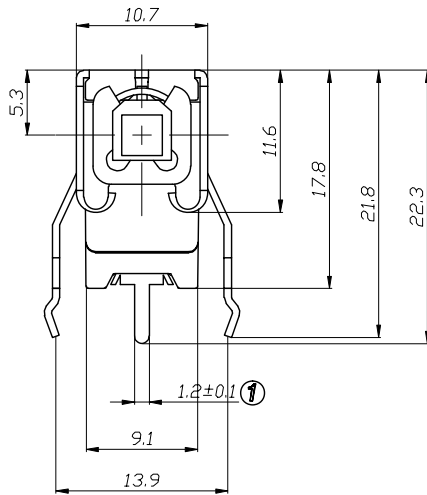
- a. Keep it storage under normal temperature, humidity and prevent from direct sunshine, erosion gas. Products sure be used within 6 months.
產品以交貨時的狀態在常溫，常濕，不受直射陽光照射，不產生腐蝕性氣體的場所保管，自交貨起 6 個月以內為限，請儘可能快的使用。
- b. For small quantity which taken from main packages, please keep it in plastic bags and sealed. And have it storage under up-mentioned environment.
開封后用塑料袋與外界氣體隔斷，請在與上述相同環境下保管，並盡快使用。
- c. Do not pile up package more than 2 levels.
請不要過分地堆積。

修訂日期 REVISED DATE	修訂內容 DESCRIPTION	修訂者 REVISED BY	文件編號 FILE NO.	制定 WRITE BY	審核 CHECKED BY	核准 APPROVED BY
			SPEC-007	管林华 2013/05/22		
			版次 VERSION			
2013/11/11	增加 CQC12A 测试条件	唐彪	A 版 1 次			

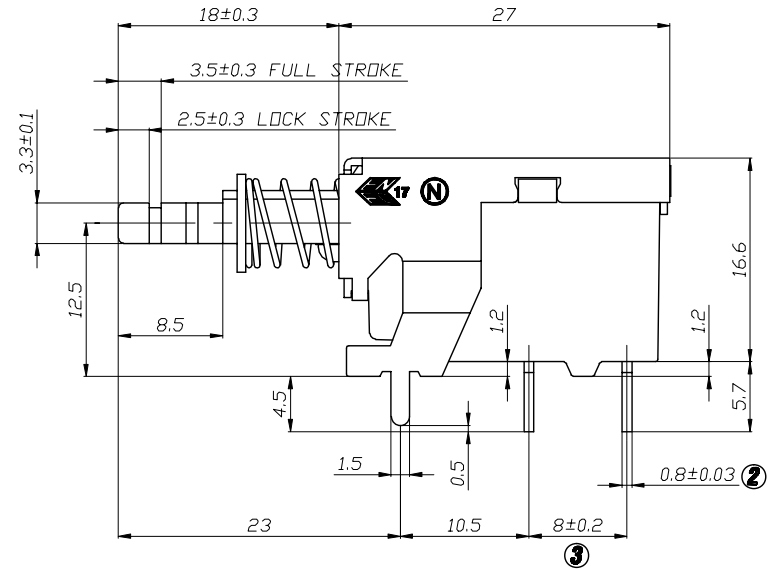
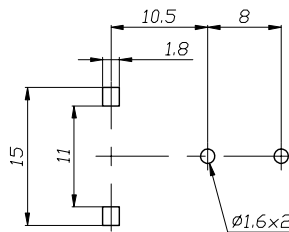
1. 按键开关型号 PUSH BUTTON SWITCH MODEL NO. MPS11-PC180-R
2. PCB TYPE
3. 额定值 RATING: 16A 125VAC/10A 250VAC(C-UL)
TV-5(C-UL)
5A/80A 250V~ μ T85(ENEC17;NEMKO;CB)
12A 250VAC 5/80A 250V~ μ T85(CQC)

C-UL APPROVAL FILE NO. E153399
ENEC17 CERTIFIED NO.3703
NEMKO CERTIFIED NO. P15219971
CQC CERTIFIED NO. CQC10002046598
CB CERTIFIED NO. 87379

4. 所有部件均使用环保材料
ALL MATERIALS USE IN CONFORMIY WITH THE RoHS DIRECTIVE



P.C.B. MOUNTING HOLE



修正 REVISION	說明 DESCRIPTION	修訂者 REVISED BY	SPECIFICATION				公差 TOLERANCES		TOLERANCES UNLESS OTHERWISE SPEC.±0.3/0.05,ANG.±2°			
△			製圖 DRAWN BY	設計 DESIGNED BY	校對 CHECKED BY	核准 APPROVED BY	單位 UNIT	mm	機種名稱 MODEL NAME	PUSH SW	機種編號 MODEL NO.	MPS11-PC180-R
△			19-JAN-2016	19-JAN-2016	19-JAN-2016	19-JAN-2016	比例 SCALE	2/1	六鈞電子五金有限公司 LEGION ELECTRONIC & HARDWARE CO., LTD.			
△			劉玉	唐彪	唐彪	唐彪	日期 DATE	2016.1.19				
△	2016-1-19	整理圖框	劉玉	唐彪	唐彪	唐彪						