

規格書

SPECIFICATION

客 戶 Customer: _____

客戶料號 Customer Part Number: _____

產品型號 Product Part Number: MS-IR14

產 品 名 稱 Product Name: 運動開關 Motion switch

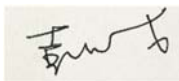
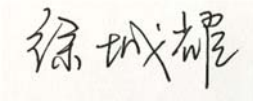
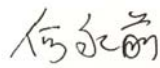
發 行 日 期 Issue Date: 2016-10-18

規格書版本 Specification Version: A

客戶確認/Customer Confirm and sign

批准 /APPROVED BY	核准 /CHECKED BY	檢驗/INSPECTED BY

能點確認/EPT Confirm and sign

批准 /APPROVED BY	核准 /CHECKED BY	製作/DRAWN BY
		



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1. 修訂記錄/Revision History

[illegible]

2. 應用領域/Application

電熨斗

Special for steam iron

其它類似用法設備

Other similar using devices or equipments

3. 產品特徵/Product features

回應速度快

Fast response time

高靈敏度

High sensitivity

體積小、成本低

Small in size and low in cost

符合安規標準要求

Satisfying the requirements in Safety Standards

符合相關 RoHS 的相關法規

This product itself will remain within RoHS compliant version

4. 絕對參數/Absolute maximum ratings (Ta=25°C)

參數/Parameter		標記/Symbol	極限值/Limit	單位/Units
發射端Input(IR)	正向電流/Forward Current	I _F	40	mA
	逆向電壓/Reverse Voltage	V _R	5	V
	功耗/Power Dissipation	P _D	70	mW
接收端 output (Phototransistor)	發射極-集電極電壓/C-E Voltage	V _{CEO}	30	V
	集電極-發射極電壓/E-C Voltage	V _{ECO}	4.5	V
	集電極電流/Collector current	I _C	30	mA
	功率/Collector Dissipation	P _C	80	mW
工作溫度/Operating Temperature		T _{opr}	-25~+80	°C
存儲溫度/Storage Temperature		T _{stg}	-40~+80	°C
壽 命/Working time		W _{time}	50000	h
※過爐溫度Lead soldering Temperature		T _{sol}	260±5	°C

※Time<5s



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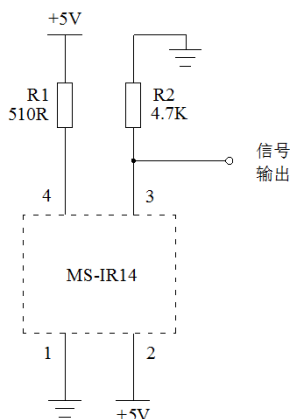
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5. 光電參數/Electro-Optical Characteristics (Ta=25°C)

參數/Parameter		標記/Symbol	最小/Min.	典型/Typ.	最大/Max.	單位/Units	條件/Conditions
輸入端 /Input	正向電流/Forward Voltage	V _F	--	1.2	1.6	V	IF=20mA
	反向電流/Reverse Current	I _R	--	--	10	uA	Vr=5V
	波長/Peak wavelength	λ _P	--	940	--	nm	
輸出端 Output	漏電流/Dark Current	I _{CEO}	--	1	100	nA	V _{CE} =10V
	飽和電壓/C-E Saturation Voltage	V _{CE(SAT)}	--	--	0.4	V	IC=2mA,Ee=1mW/cm2
特性/Transfer Characteristics	電流/Collector Current	I _{C(ON)}	0.3	--	--	mA	VCE=5V,IF=10mA
	漏電流/Leakage Current	I _{CEOD}	--	--	1	uA	VCE=5V,IF=10mA
	上升時間/Rise time	T _r	--	15	--	u sec	VCE=2V IC=1mA
	下降時間/Fall time	T _f	--	15	--	u sec	RL=1KΩ

6. 推薦應用電路/Recommended Application Circuit



DC 5V 典型应用电路 DC 5V typical application circuit

信號/Signal	輸出/Output(V)	電流/Current(mA)
低電位/Low level	< 0.2	<9
高電位/High level	> 4.5	<9
脈衝/Impulse	< 0.2 或 > 4.5	<9

說明：

將運動感測器按如下電路進行連接，信號輸出端將輸出與運動感測器運動狀況和姿態一致的電壓信號，電熨斗之單片機或控制電路根據此信號得之電熨斗的運動狀況和姿態，從而發出相應的指令，以滿足功能及安全的要求

Connect the motion sensor according to the following circuit. The signal output terminal will have a voltage signal output



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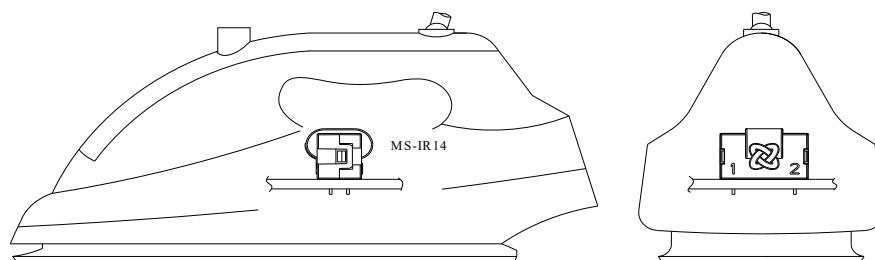
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corresponding to the motion condition and attitude of the motion sensor, based on which the MCU or control circuit of the electric iron knows its motion condition and attitude, thus sending commands accordingly to meet functional and safety requirements.

信號輸出如下/The signal output is detailed as follows:

- ① .如下圖所示,當電熨斗處於水準靜止時,信號輸出為低電平.

The signal output will be at low level when the electric iron remains motionless horizontally, as shown below.

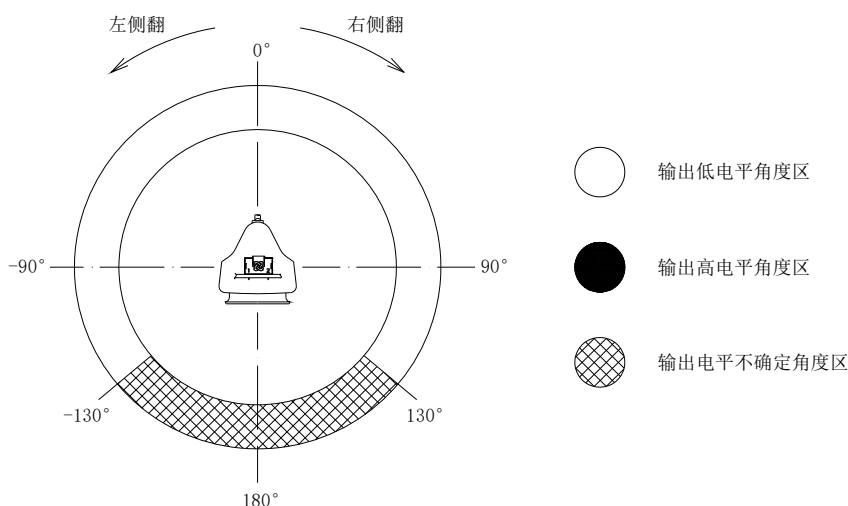


电熨斗水平静止

Horizontally motionless electric iron

- ② .下圖為電熨斗左側翻或右側翻時,信號輸出電平角度區分佈

Shown below is the distribution of signal output level angle section when the electric iron turns over to its left or right



左側翻/Turn over on left side 0°~-130° 輸出低電平/ Low level output

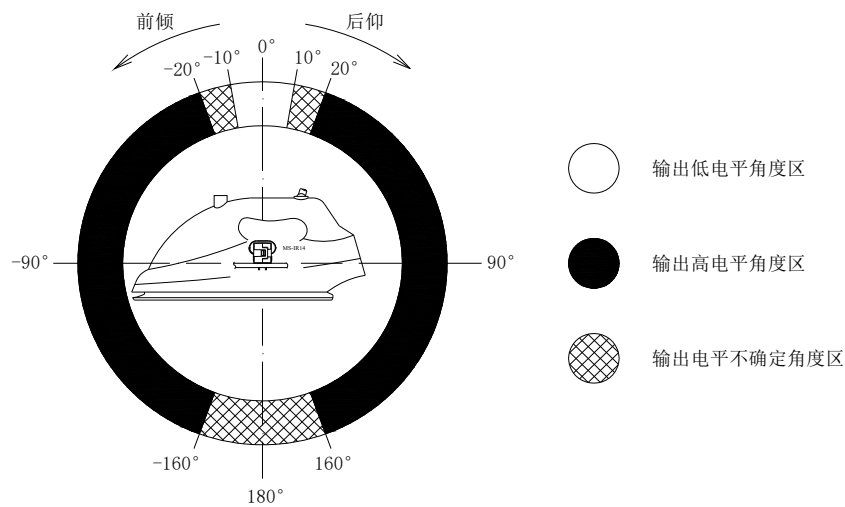
右側翻/ Turn over on right side 0°~ 130° 輸出低電平/ Low level output

左側翻/ Turn over on left side -130°~-180° 輸出電平不確定/ Uncertain output level

右側翻/ Turn over on right side 130°~ 180° 輸出電平不確定/ Uncertain output level

- ③ .下圖為電熨斗前傾或後仰時,信號輸出電平角度區分佈

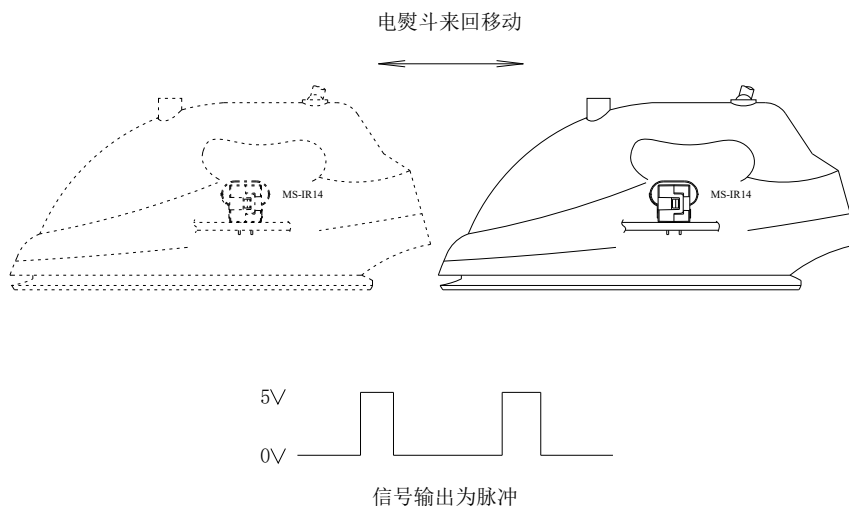
Shown below is the distribution of signal output level angle section when the electric iron tilts forward or backward



前傾/Tilt forward	0° ~ -10°	輸出低電平/Low-level output
後仰/Tilt backward	0° ~ 10°	輸出低電平/Low-level output
前傾/Tilt forward	-20° ~ -160°	輸出高電平/High-level output
後仰/Tilt backward	20° ~ 160°	輸出高電平/High-level output
前傾/Tilt forward	-10° ~ -20°, -160° ~ -180°	輸出電平不確定/Uncertain output level
後仰/Tilt backward	10° ~ 20°, 160° ~ 180°	輸出電平不確定/Uncertain output level

④ 如下圖所示,當電熨斗來回移動時,信號輸出為脈衝信號

The signal output will be an impulse signal when the electric iron moves back and forth, as shown below.



7. 尺寸規格/Outline Drawing



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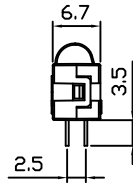
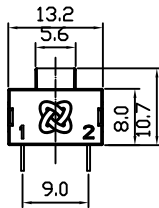
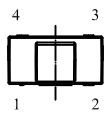
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附页1
Attachment 1



备注:

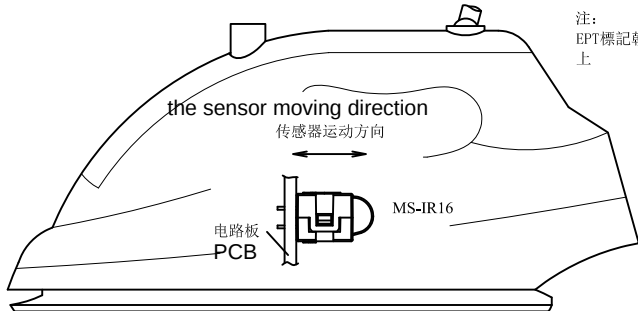
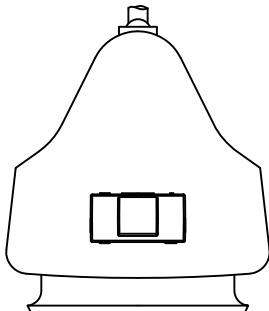
Remark: 所有尺寸单位均为mm

The unit for each dimension is mm.

未说明尺寸公差为 $\pm 0.20\text{mm}$

The tolerance for unindicted dimensions is $\pm 0.20\text{ mm}$

		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	深圳市能點科技有限公司 EPT TEHCNOLOGY CO., LTD.		
		DIMENSIONS ARE IN INCHES	DRAWN					
		TOLERANCES:	CHECKED					
		FRACTIONAL ±	ENG APPR.			MS-IR16产品图 Product design drawing		
		ANGULAR: MACH ± BEND ±	MFG APPR.					
		TWO PLACE DECIMAL ±	Q.A.					
		THREE PLACE DECIMAL ±	COMMENTS:					
		INTERPRET GEOMETRIC TOLERANCING PER:						
		MATERIAL						
NEXT ASSY	USED ON	FINISH				SIZE A	DWG. NO.	REV
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:1		SHEET 1 OF 1

	1	2	3	4	5	6	
A	附页2 Attachment 2						
B							
C						注: EPT標記朝 上 EPT logo upwards	
D							
E							
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G							
H			UNLESS OTHERWISE SPECIFIED:		NAME	DATE	
			DIMENSIONS ARE IN INCHES	DRAWN			
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			FRACTIONAL ±	ENG APPR.			
			ANGULAR: MACH ± BEND ±	MFG APPR.			
			TWO PLACE DECIMAL ±	Q.A.			
			THREE PLACE DECIMAL ±	COMMENTS:	深圳市能點科技有限公司 EPT TEHCNOLOGY CO., LTD. MS-IR16 参考安装图 Recommend installation graph		
		INTERPRET GEOMETRIC TOLERANCING PER:					
		MATERIAL					
		FINISH					
	NEXT ASSY	USED ON					
	APPLICATION		DO NOT SCALE DRAWING				
	1	2	3	4	5	6	