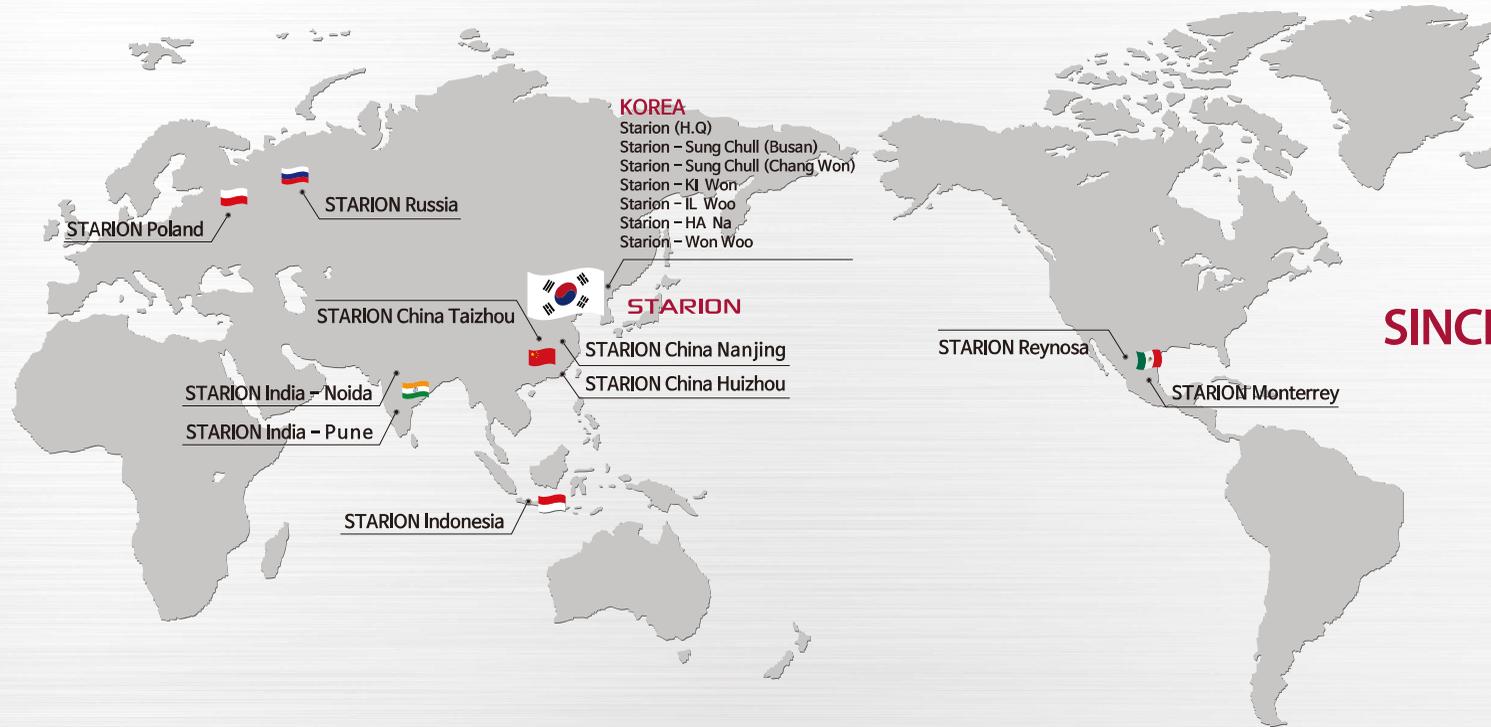




# STARION



SINCE 1965

## Our Heritage



1960'S	1970'S	1980'S	1990'S	2000'S ~	
<p>1965년</p> <ul style="list-style-type: none"> <li>· 성철사 설립</li> </ul> 	<p>1976년</p> <ul style="list-style-type: none"> <li>· 냉장고 증발기 제조</li> <li>· OEM 제품 개발 (석유공로, 전기스토브)</li> </ul>  <p>1979년</p> <ul style="list-style-type: none"> <li>· 자동차용 핸들 제조</li> </ul> 	<p>1985년</p> <ul style="list-style-type: none"> <li>· 철담산업은행 수상</li> <li>· (주)성철사 창원공장 설립</li> <li>· 가스레인지, 가스스토브 KS취득</li> </ul>  <p>1986년</p> <ul style="list-style-type: none"> <li>· 원우정밀 설립 (LCD, ODD 부품 제조)</li> </ul> 	<p>1991년</p> <ul style="list-style-type: none"> <li>· 기원 설립 (냉장고용 증발기 제조)</li> </ul> <p>1992년</p> <ul style="list-style-type: none"> <li>· 하나 설립 (냉장고용 응축기 제조)</li> </ul>  <p>1993년</p> <ul style="list-style-type: none"> <li>· 일우정밀 설립 (자동차용 핸들제조)</li> </ul> <p>1996년</p> <ul style="list-style-type: none"> <li>· 인도네시아 법인 설립 (PT.WOON)</li> </ul>	<p>1997년</p> <ul style="list-style-type: none"> <li>· MICRO SWITCH 개발</li> </ul>  <p>1999년</p> <ul style="list-style-type: none"> <li>· 업소용 냉장고 OEM 생산</li> </ul>  <p>· 미국, 멕시코 법인 설립</p>	<p>2000년</p> <ul style="list-style-type: none"> <li>· 중국 상해 법인 설립</li> </ul> <p>2001년</p> <ul style="list-style-type: none"> <li>· 인도 법인 설립</li> <li>· 자체 브랜드 선통기 출시</li> <li>· 2000만불 수출의 탑 수상</li> </ul> <p>2002년</p> <ul style="list-style-type: none"> <li>· 멕시코 몬테레이 법인 설립</li> <li>· 냉장고 품질 연구소 설립</li> </ul>  <p>2003년</p> <ul style="list-style-type: none"> <li>· 중국 해주 법인 설립</li> <li>· 중국 남경 법인 설립</li> </ul>  <p>2005년</p> <ul style="list-style-type: none"> <li>· 중국 태주 법인 설립</li> <li>· 러시아 법인 설립</li> </ul> <p>2006년</p> <ul style="list-style-type: none"> <li>· 폴란드 법인 설립</li> </ul> <p>2009년</p> <ul style="list-style-type: none"> <li>· 레이노사 법인 설립</li> </ul> <p>2015년</p> <ul style="list-style-type: none"> <li>· 스타리온 업소용 냉장고 출시</li> </ul>  <p>· 스타리온 공기청정기 Red Dot Concept Award수상</p> <ul style="list-style-type: none"> <li>· 쌍용자동차 티볼리 핸들 공급</li> </ul> <p>2016년</p> <ul style="list-style-type: none"> <li>· 스타리온 식기세척기 출시</li> </ul> 



仕达利恩惠州  
STARION(H.Z.)

## “向亚微型挑战的最新自动生产系统” Updated Automatic Production SysSystem for the challenge to Submicron High Technology



### 企业前景 COMPANY VISION

“STARION”是仕达利恩开发和生产的产品的综合品牌。仕达利恩具有不断努力创新的进取意识，以先进的尖端技术生产与生活紧密相关的产品。我们以STARION的名字保证仕达利恩产品优良的品质和未来开创性的企业印象。

在竞争无限激烈的时代需要独特的生产技术和生存战略。仕达利恩将积极拓展销售渠道，增加销售额，并竭诚与顾客建立亲密友好的关系。

STARION is a STARION's integrated brand name as well as the corporate name of its sales & marketing company. STARION is keen on developing customer-focused products. As new materials from space are close to be becoming a feasible alternative to earth-based materials, STARION (STAR+IRON) promises to be the launch pad for a better future.

STARION will strengthen the quality-focused management infrastructure by bolstering professional service with its highly qualified staffs. Significantly reinforcing its marketing and advertising programs, STARION will become a globally friendly brand image.

STARION's experienced and professional staffs will listen to your concerns and know how to address them. Their primary interest will be in listening to and relieving any inconvenience you may experience in using STARION products and part. STARION is a skilled partner ready to assist our sales and marketing business partners in a multitude of ways from identifying market potential to negotiating business deals. One of STARION's paramount goal is to work in tandem with its business partners toward building an environment in which business can grow and prosper.

### 经营理念 COMPANY PHILOSOPHY

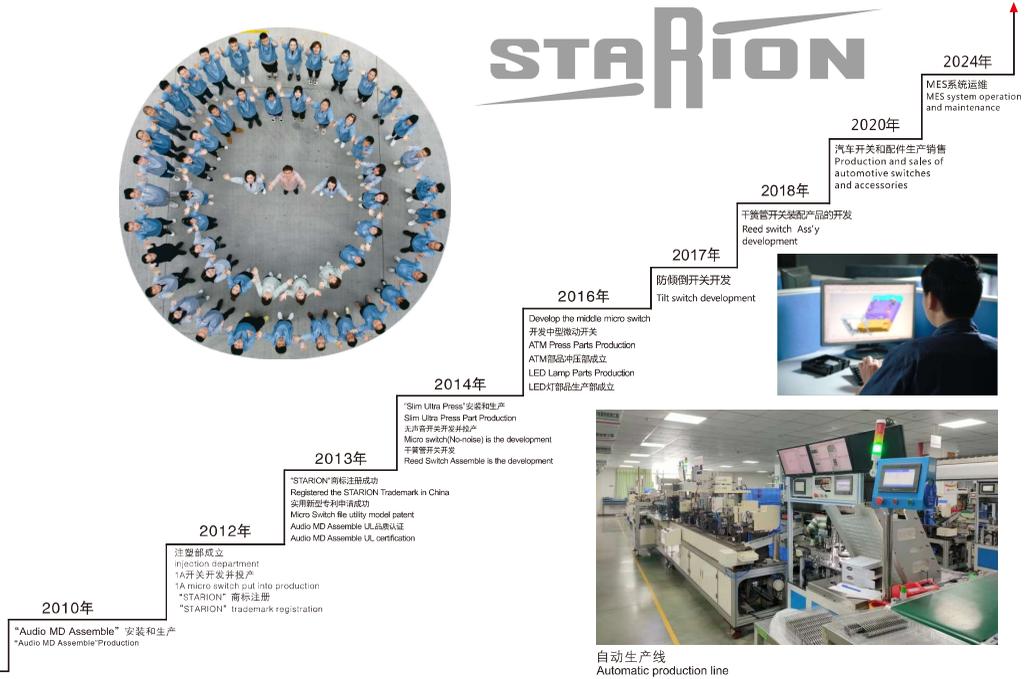
从钣金加工到家用电器及其零部件生产，我们一直以顾客满意和产品开发水平高速度发展及掌握尖端技术为经营理念。21世纪是急变的无限竞争的时代，所以我们希望成为形象同实力兼具的企业，向世界一流技术开始再一次的挑战。

From a metal stamping company in 1965, STARION had been evolved into a provider of critical and household appliances and parts. We always put customer's satisfaction, product development, advanced technology as ours company philosophy. Based on ours past achievement, we are confident that we will more than meet the challenge of the next century.

### 公司发展历程 COMPANY HISTORY

仕达利恩的历史与我们国家的经济开发的历史同步。虽然以前外部环境条件恶劣，但我们没有放弃，坚持开发技术，并取得了进一步地发展。现在我们公司依然不懈努力，争取进一步地发展。

STARION has been growing alongside of korea's industrial growth, doing its best to be the basis of korea's economic development. Even though the market competition is intense, but we never give up, we insist on technology develop, and achieve a great progress. Now our company is doing its best to make a further development.



### The development course of Huizhou Corporation 惠州法人发展历程



1965年  
仕达利恩集团成立  
Founded STARION

1997年  
Micro S/W 开始生产  
Micro S/W Starts to produce  
工厂搬迁 (深圳 → 惠州)  
Factory to move (S.Z → H.Z.)

2003年  
仕达利恩 (惠州) 电子有限公司成立  
Founded STARION(H.Z) Electronics Co., LTD.

2004年  
C D - R O M " M D Line" 安装和生产  
C D - R O M " M D Line" installation and

2005年  
"PERSS LINE" 和 "立式注塑机" 安装和生产  
"PERSS LINE" & "vertical casting machine" installation and production  
KC品质认证 (Micro S/W)  
KC Quality authentication (Micro S/W)

2006年  
Micro switch 月销售量突破700万个  
Micro switch month sales volume breaks through 7 millions

2008年  
模具部成立  
Mold department  
新工厂搬迁  
New factory transfer

2010年  
"Audio MD Assemble" 安装和生产  
"Audio MD Assemble" Production

2012年  
注塑部成立  
Injection department  
16件开发开发并量产  
1A micro switch put into production  
"STARION" 商标注册  
"STARION" trademark registration

2013年  
"STARION" 商标注册成功  
Registered the STARION Trademark in China  
实用新型专利申请成功  
Micro Switch file utility model patent  
Audio MD Assemble UL 认证通过  
Audio MD Assemble UL certification

2014年  
"Slim Ultra Press" 安装和生产  
Slim Ultra Press Part Production  
超薄零件开发成功  
Micro switch (No-noise) is the development  
干簧管开关开发  
Reed Switch Assemble is the development

2016年  
开发中阻微动开关  
ATM Press Parts Production  
ATM 高级冲床成立  
LED Lamp Parts Production  
LED灯部品生产制成立

2017年  
防倾倒开关开发  
Tilt switch development

2018年  
干簧管开关装配产品的开发  
Reed switch Ass'y development

2020年  
汽车开关和配件生产销售  
Production and sales of automotive switches and accessories

2024年  
MES系统运维  
MES system operation and maintenance



For years, STARION is a pioneer in technological innovation



触点铆铆生产线  
Riveting production line



冲压车间  
Press production line



模具部  
Mold manufacturing department



信赖性实验室  
Test Room



RoHS 亲环境分析及电镀厚度测试  
Material & Element Analysis Room



精密测试分析室 (3D)  
3D Testing Device

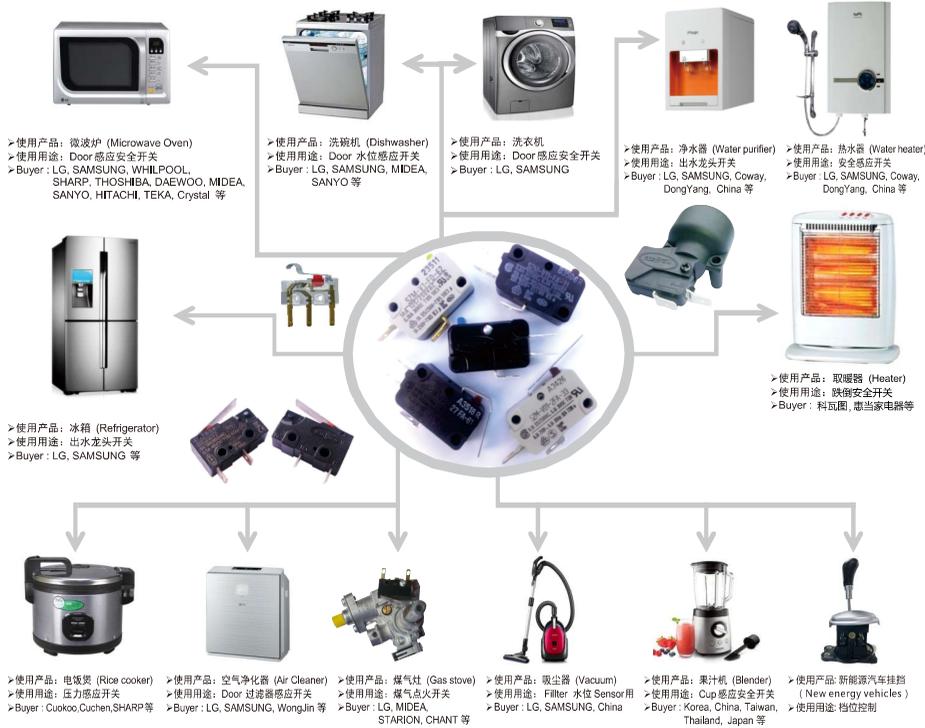




## 微动开关使用用途 (Micro Switch Use)

V系列微动开关适用于各种家用电器、自动化生产设备、电动工具等，可承受多种电流，而驱动开关的方式不同，更拓展了开关的使用范围，使开关具有高信赖性的特点。

V-Series micro switch has high reliability, which can be fit to variety of household appliances, auto production equipment, power tools, etc. V-Series micro switch can pass variety of current, meanwhile has different driver which expand the using range.



## 微动开关生产现场 (Micro Switch Production Line)



我们拥有全自动化的生产设备，实行全自动化组装及全数检查；我们拥有全套的实验设备，产品的各项性能实行定期的实验检测。

我们承诺：给顾客每一个产品都为良品，产品的性能可信赖，符合最高规格的环保要求。

We have fully automated production equipment and fully automatically assembly and fully inspection in our production line; we also have a full range of laboratory equipment and do the products performances test regularly.

Our commitment is: Each product we send to customer with good quality and reliable performance, comply with the highest standard of environmental requirements.

### 微动开关生产线(Micro Switch Production Line)



特性 FEATURES

- 从微小负载0.1A到最大21A都可进行开闭的通用小型基本开关。
- 这种微型开关不仅可用于各种自动化机器，还是适用于家电产品的常用开关。
- 因这种微动开关完全改善了以往的V型，便于使用。
- 根据用途配备了各种各样的轴能。
- UL, cUL, CSA, VDE, SEMKO, CQC, KC规格认定品。
- Compact and precision operation
- Variety of actuators and contact configuration
- Wide switching capacity ranging from 0.1A, 30VDC to 21A, 250VAC
- A choice of types with right-hand barrier left-hand barrier and without barrier is available for Specific applications
- UL, cUL, CSA, VDE and SEMKO, CQC, KC, approved.



型名区分、对照目录 DIVISION OF MODEL NUMBERS

- 选择机种时，请将“触点间距”，“端子位置/外形”，“OF”与下表进行对照，确认机种存在与否。
- 如果满足下表条件，请根据型名分类表确定型名，并对照种类进行订购。
- 区分项目中以●符号标示的产品为标准品。
- In selecting the model please take a reference to the chart below and check these items [the distance between the contacts],[the position/the look of the contact],[OF].
- The models marked are standard models.
- When satisfied compared with the conditions shown in the chart below, please place an order with the appropriate model number.

规格 Rating	型式 Model Number	触点间距 Contact Gap 1mm	端子 Terminal		动作时需要的最大力 (OF) Operating Force(OF)						特征 Features		
			位置 Position	外形 Type A,D(#187) C(#250)	30gf	50gf	100gf	150gf	200gf	400gf		500gf	
250V AC 21A	SZM-V21	●	下端子 Below	●	●						●	●	* V5,V10,V15是使用热塑性树脂封装的广用性强的一种。 * 可广泛使用至微小负载。 * 机械性寿命达到1,000万次以上。 For the models of V5,V10 and V15,the thermosetting resin is used. * These switches are to be applicable to the infinitesimal load. * Mechanical life of these switches is over 10 millioncycles.
250V AC 16A	SZM-V16	●	下端子 Below	●	●								
250V AC 15A	SZM-V15	●	下端子 Below	●	●								
250V AC 11A	SZM-V11	●	下端子 Below	●	●								
250V AC 10A	SZM-V10	●	下端子 Below	●	●								
250V AC 6A	SZM-V6	●	下端子 Below	●	●	●	●	●	●	●			
250V AC 5A	SZM-V5	●	下端子 Below	●	●	●	●	●	●	●			
250V AC 1A	SZM-V1	●	下端子 Below	●	●	●	●	●	●	●			
250V AC 0.2A	SZM-V02	●	下端子 Below	●							●		
250V AC 0.1A	SZM-V01	●	下端子 Below	●							●		

\*上表的“OF”是密码按钮型的值。“OF”(30gf中动作型)的轴能仅限于密码按钮型。  
 \*The [OF]shown in the chart above is the value for the type of pin push button switches. The actuator for the [OF](30gf low operating force type)is pin push button type only.

通过标准 (APPROVED BY STANDARDS)

NO	下重	V01	V02	V1	V3	V5	V6	V10	V11	V15	V16	V21
1	F 15g	U.C										
2	E 25g	U.C,CQ,K			U.C							
3	1 50g	U.C,V,CQ,K		V,U,CQ,aUL	U.C	U.C,K	U.C,V,CQ,K	K				
4	3 100g	U.C,V,CQ,K		V,U,CQ,aUL	U.C	U.C,K	U.C,V,CQ,K	U.C,V,K	U.C,K,CQ			
5	5 150g	V,CQ,K		V,U,CQ,aUL	U.C	V,K	U.C,V,CQ,K	V,K	U.C,V,K,CQ		U.C,CQ,K	
6	6 200g	V,CQ,K	U	V,U,CQ,aUL	U.C	V,K	U.C,V,CQ,K	U.C,V,K	U.C,V,K,CQ	U.C,K	U.C,V,CQ,K	
7	8 300g			V,U,CQ,aUL				V,K	U.C,V,K,CQ		U.C,V,CQ,K	
8	9 400g			V,U,CQ,aUL					U.C,V,K,CQ	U.C,K	U.C,V,CQ,K	U.C
9	G 600g								V,K,CQ		U.C,V,CQ,K	U.C

U=UL: C=CSA: V=VDE: CQ=CQC: KC=K: cUL=

\* 可以定制力度

型名分类 (NOMENCLATURE BREAKDOWN)

SZM-	V	C	F
AB: 冲击电流(Rated)Current PBT Type (-130°C) 21: 21A 16: 16A 11: 11A 6: 6A 1:1A 02: 0.2A 01: 0.1A Phenol&Melamine Type (-150°C) 15: 15A 10: 10A 5: 5A	<b>C</b> : 轴能分类(The division of actuators) 标示无: 密码按钮(None:Pin push button Type) 1: 铰链短杆(Hinge short lever) 2: 铰链杆(Hinge lever) 3: 铰链长杆(Hinge long lever) 4: 铰链R杆(Hinge R lever) 5: 铰链轮式短杆(Hinge roller short lever) 6: 铰链轮式杆(Hinge roller lever) 7: 其他.....(Other.....) <b>D</b> : 触点间距(Contact Gap) F: 1.0mm <b>E</b> : 端子构造(The feature of the terminal) A: 焊料或者#187端子(Solder or #187Tab) C: #250端子(#250Tab) D: #187端子(#187Tab) *根据订单特殊制作的轴能在上表中予以省略。 Actuators manufactured according to the request from customers are not shown above.	<b>F</b> : 动作力(Operating Force) G: 600gf 9: 400gf 8: 300gf 6: 200gf 5: 150gf 3: 100gf 1: 50gf E: 30gf <b>G</b> : 接触构造(Contact Configuration) 下端子 (Below-Terminal) 1: S.P.D.T. 2: S.P.S.T.(NC) 3: S.P.S.T.(NO) <b>H</b> : 接触形式和端子位置(H: Button Point) 表格: 标准型(Blank: Standard Type) L: 前向式按钮(L: Front type Button)	

端子种类 (TERMINAL TYPE)

Solder & Quick connect (#187) 0.5T Terminal (A)	Quick connect (#187) 0.5T Terminal (D)	Quick connect (#250) 0.8T Terminal (C)	M3 Screw 0.8T Terminal (T)
<p>Note: Indicates the length to the center of the 1.6 dia. hole</p>			

接触形式 (CONTACT CONFIGURATION)

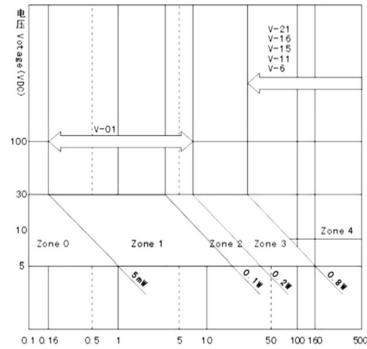
种类 Type	形式 Form	单极双投型(1c) S.P.D.T.(1c)	常时开路型(1a) S.P.S.T.-N.O.(1a)	常时闭路型(1b) S.P.S.T.-N.C.(1b)
下端子型 Under terminal type				



规格 (SPECIFICATIONS)

项目 Item	规格 Rated voltage (V)	无引导线负载 (A) Non-inductive load(A)				引导线负载 (A) Inductive load(A)				突入电流 Inrush current
		电阻负载 Resistive load		照明负载 Lamp load		引导线负载 Inductive load		电动机负载 Motor load		
		NC	N0	NC	N0	NC	N0	NC	N0	
21A	250 VAC	21	3	12	4	50A max.				
	8 VDC	21	5	12	7					
	30 VDC	14	5	12	5					
	125 VDC	0.6	0.1	0.6	0.1					
16A	250 VDC	0.3	0.05	0.3	0.05	40A max.				
	8 VDC	16	4	10	6					
	30 VDC	10	4	10	4					
	125 VDC	0.6	0.1	0.6	0.1					
15A	250 VDC	0.3	0.05	0.3	0.05	36A max.				
	8 VDC	15	2	10	3					
	30 VDC	10	4	10	4					
	125 VDC	0.6	0.1	0.6	0.1					
11A	250 VDC	0.3	0.05	0.3	0.05	24A max.				
	8 VDC	11	1.5	6	2					
	30 VDC	10	3	6	3					
	125 VDC	0.6	0.1	0.6	0.1					
6A	250 VDC	0.3	0.05	0.3	0.05	15A max.				
	8 VDC	6	3	4	4					
	30 VDC	5	3	4	4					
	125 VDC	0.4	0.1	0.4	0.2					
1A	250 VDC	0.1	-	-	-	-				
	8 VDC	0.2	-	-	-					
	30 VDC	0.1	-	-	-					
	125 VDC	0.1	-	-	-					
0.2A	250 VDC	0.2	-	-	-	-				
	8 VDC	0.1	-	-	-					
	30 VDC	0.1	-	-	-					
	125 VDC	0.2	-	-	-					
0.1A	250 VDC	0.1	-	-	-	-				
	8 VDC	0.1	-	-	-					

微小负载使用领域 (Applicable load range)



注：  
1、电感性负载有一个最小为0.4 (AC) 的功率因数和最大为7ms(DC)的时间常数。  
2、电灯负载有一个10倍于稳定状态下电流的冲击电流，电动机负载有一个6倍于稳定状态下电流的冲击电流。

NOTES:  
1. Inductive load has a power factor of 0.4min.(AC)and a time constant of 7ms max.(DC)  
2. Lamp load has an inrush current of 6 times the steady-state current,while motor load has an inrush current of 6 times the steady-state current.

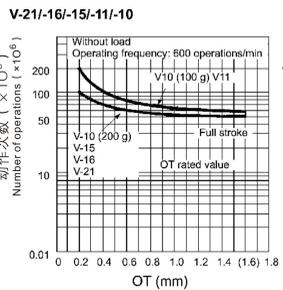
特性 (CHARACTERISTICS)

项目 Item	类型 Type	V-21	V-16	V-11	V-6	V-1	V-01	V-02
允许操作速度 Operating speed		0.1mm/s ~ 1.0m/s (柱塞类型 at plunger)						
允许操作频率 Operating frequency		机械 (Mechanically) : 600次运行 (operations)/分 (min) 电气 (Electrically) : 20次运行 (operations)/分 (min)						
触点电阻 Contact resistance		最大 : 15mΩ (初始值) 15mΩ max. (initial)			最大 : 30mΩ (初始值) 30mΩ max. (initial)		最大 : 50mΩ (初始值) 50mΩ max. (initial)	
绝缘电阻 Insulation resistance		100MΩ 以上 (DC500V电压) 100MΩ min. (at 500 VDC)						
电介强度 Dielectric strength		在不连续端子之间的 1分钟为 1,000VAC, 50/60Hz 1,000VAC, 50/60Hz for 1 minute between noncontinuous terminals 在每个端子与非载流金属部件之间以及在每个端子接地之间的1分钟为 1500VAC, 50/60Hz 1,500VAC, 50/60Hz for 1 minute between current-carrying and non-current-carrying parts and between each terminal and ground						
震动 Vibration		故障时 : 为在 1.5mm 双振幅下的 10/60Hz (Malfunction durability : ±10 to 60Hz, 1.5mm double amplitude)						
冲击 Shock	机械耐用性 Mechanical durability	大约为 980ms <sup>2</sup> (大约为 1000 <sup>2</sup> s) APPROX.980M/sec <sup>2</sup> (APPROX.1000G/s)			大约为 392ms <sup>2</sup> (大约为 40G/s) APPROX.392M/sec <sup>2</sup> (APPROX.40G/s)			
	故障耐用性 Malfunction durability	大约为 300ms <sup>2</sup> (大约为 100G/s) APPROX.300M/sec <sup>2</sup> (APPROX.100G/s)		大约为 200ms <sup>2</sup> (大约为 20G/s) APPROX.200M/sec <sup>2</sup> (APPROX.20G/s)		大约为 100ms <sup>2</sup> (大约为 10G/s) APPROX.100M/sec <sup>2</sup> (APPROX.10G/s)		
环境温度 Ambient temperature		常规 : -25到130°C (-20到+150°C 漆酚类) operation: -25 to 130°C (-20 to 150°C phenolic type)						
湿度 Humidity		最大 85%RH (85% RH max)						
使用寿命 Service life	机械寿命 Mechanical	10,000,000 次 (10,000,000 operations)			1,000,000 次 (1,000,000 operations)			
	电气寿命 Electrical	100,000 次 (100,000 operations)			100,000 次 (100,000 operations)			
重量 Weight		大约为 6.2g (通用针柱塞式) Approx.6.2g (general-purpose pin plunger type)						

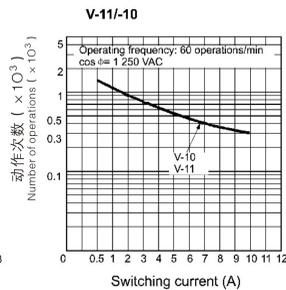
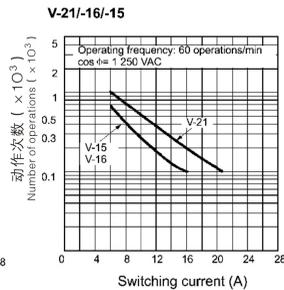
注 (NOTES) :  
\* 左边参数值为我司所生产的有型号类别。  
\* V5, V10, V15 为特殊模式, V6, V11, V16 都是相同模式。  
\* 唯一不同的是环境温度条件。  
\* The values indicated here are of the pin plunger type.  
\* The characteristics for the models of V5,V10,V15 are the same as those for the models of V6,V11,V16.  
\* The only difference is the temperature condition.

特性寿命曲线 (CHARACTERISTIC DATA)

Mechanical Life Expectancy



Electrical Life Expectancy



特殊制造轴能 (ACTUATORS)

型名 Type	外形 Shape	杆长 Lever (mm)	型名 Type	外形 Shape	杆长 Lever (mm)
LEVER-(7)		26.8	LEVER-(18)		43.3
LEVER-(8)		27.3	LEVER-(19)		45.1
LEVER-(9)		50.2	LEVER-(22)		27.5
LEVER-(10)		22.8	LEVER-(23)		27.7
LEVER-(11)		25.7	LEVER-(24)		28.3
LEVER-(12)		60.1	LEVER-(25)		27.5
LEVER-(14)		70.2	LEVER-(26)		22.8
LEVER-(15)		66.0	LEVER-(27)		15.0
LEVER-(16)		61.0	LEVER-(28)		41.0
LEVER-(17)		70.0			





铰链轮式杆型  
 (HINGE ROLLER LEVER)  
 SZM-V16-6FA-61  
 SZM-V11-6FA-31  
 SZM-V6-6FA-11  
 SZM-V01-6FA-11



#24 杠杆  
 #24 LEVER

SZM-V16-24FA-61  
 SZM-V11-24FA-51  
 SZM-V6-24FA-31  
 SZM-V01-24FA-11



#28 杠杆  
 #28 LEVER

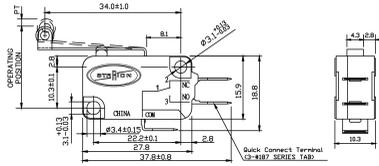
SZM-V16-28FA-61  
 SZM-V11-28FA-51  
 SZM-V6-28FA-31  
 SZM-V01-28FA-11



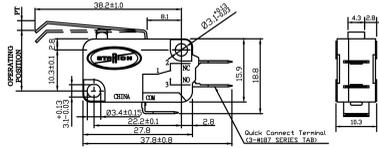
注：1.因为对应D端子，横端子的外形尺寸不同。请参照端子种类。

2.各机种类的外形尺寸种，未指定的范围为±0.4mm。

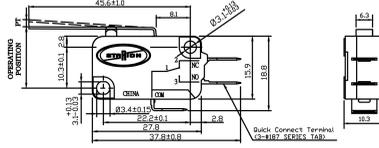
NOTES: Unless otherwise specified, a tolerance of ±0.04mm applies to all dimensions.



	V16-6□-□	V11-6□-□	V6-6□-□	V01-6□-□
OF Max.	125g	60g	30g	30g
RF Min.	14g	6g	---	---
PT Max.	4.0mm	4.0mm	4.0mm	4.0mm
OT Min.	1.6mm	1.6mm	1.6mm	1.6mm
MD Max.	1.5mm	1.5mm	1.5mm	1.5mm
OP	20.7 ± 1.2mm	20.7 ± 1.2mm	20.7 ± 1.2mm	20.7 ± 1.2mm



	V16-24□-□	V11-24□-□	V6-24□-□	V01-24□-□
OF Max	80 g			
RF Min	15 g			
PT Max	3.9 mm			
OT Min	2.5 mm			
MD Max	1.3 mm			
OP	1.54 ± 1.2 mm			



	V16-28□-□	V11-28□-□	V6-28□-□	V01-28□-□
OF Max	80g	60g	40g	40g
RF Min	15g	10g	-	-
PT Max	6.5mm	6.0mm	6.0mm	6.0mm
OT Min	2.0mm	3.5mm	1.8mm	1.8mm
MD Max	1.6mm	2.5mm	2.2mm	2.2mm
OP	15.2 ± 2.6mm	15.5 ± 2.0mm	15.2 ± 2.0mm	15.2 ± 2.0mm

Quality system certification



ISO 9001:2016



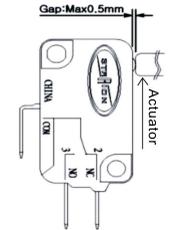
IATF 16949

为了安全设计及安全使用的注意事项

Directions for Design and Safe Use

- 为了使微动开关(Micro switch)得到良好的性能,设定工作距离很重要,这是为了(目的)在接点的适当接触压力范围内使用的。  
 -工作距离设定位置: =NC(Normally close contacts, 常闭); 不压到Actuator的状态下使用。  
 =NO(Normally open contacts,常开): 在CASE面(BODY面)和Actuator的GAP(间隙)为 MAX0.5mm在此范围内使用(详细内容见参考图)  
 -Stroke(冲程)设定错误或者设定为 OP(Operating Position:工作点), 或者设定为接近 MD(Movement Differential :动作差异)附近的时候, 因为出现接触不稳定及接触抵抗不良, 容易产生熔着(熔接)不良等问题, 从而会引发高温, 而且降低信赖性。  
 2.可用(允许)动作频率(频率)要跟性能表比较确认后, 才可设计及使用。-超过可用频率(频率)会发生接点转换不了的问题。  
 3.动作速度比允许基准慢时接点转换会不稳定, 又会发生接触抵抗不良或熔化不良。  
 4.电源接AC,DC及工作负荷的种类, 每种微动开关的可用电流不同, 所以必须选择正确后使用。  
 5.特别是微小电压(30V以下)及微小电流(3A以下)的情况时, 应该要使用微小工作负荷的开关, 使用不符规格的开关时会发生通电和接触抵抗及接触不良。  
 6.通电端子在焊接导线时要迅速。  
 -不正确的焊接会降低开关的性能。-烙铁的功率:60W以下。-作业时间:5秒以内。  
 ● 使用此微动开关进行产品设计、研发或直接用于其它产品上的制造者以及其它用到此类微动开关的使用者, 如因不遵守上面表明的注意事项(1~6项)或者行使不恰当的使用方法而引发的任何问题时, 我公司对此一律不负责任。

- Stroke setting is the most important to gain a good performance in MICRO SWITCH. It is for using within a proper contact pressure range of the contact point.  
 -Stroke setting position :  
 =NC(Normally Close Contacts) : Be sure to use it in 'Free' state that the actuator is not pressed.  
 =NO(Normally Open Contacts) : Be sure to use it within the range that CASE side(BODY side) and Actuator's GAP is in MAX 0.5mm. (See the Figure for details)-When the Stroke setting is wrong, or the Stroke is set near OP(Operating Position) or MD (Movement Differential), high temperature heat may be generated in MICRO SWITCH due to uneasy contact, bad contact resistance and defective deposit so that it will reduce reliability.  
 2. Be sure to design and use the allowable operation frequency, by comparing with and confirming the performance table.  
 -When it exceeds the allowable operation frequency, the contact point may not be converted.  
 3. When the operating speed is slower than the allowable standard, the contact point conversion is unstable, and it can cause the defect of contact resistance or defective welding.  
 4. Because the switch's allowable current is different by AC,DC and load type, be sure to use the proper power according to the rating.  
 5. In case of the low voltage (below 30V) and current (below 3A), the switch for small load must be used. If the normal switch is used, it can cause the electric shock, contact resistance and loose contact..  
 6. Be sure to solder the wire to terminal rapidly.  
 -Improper soldering reduces the switch performance.- Soldering iron capacity: Below 60W. Working time: Below 5 sec.  
 ● The company shall not take any responsibilities for the problems caused when manufacturer who designs and manufactures the product using the MICRO SWITCH or MICRO SWITCH user doesn't follow the above cautions (Paragraph 1~6) or uses the MICRO SWITCH improperly.



\* 充分地按发动器 (Actuator), 才可以保障提高接触压力, 从而防止微动开关在工作的过程中发生高温。

Actuator must be fully pressed to improve the contact pressure. It can prevent the High temperature heat of MICRO SWITCH.

A/S Center  
 Tel: +86-752-3767220  
 Fax: +86-752-3767330

**+** **+** **+** 特性 FEATURES

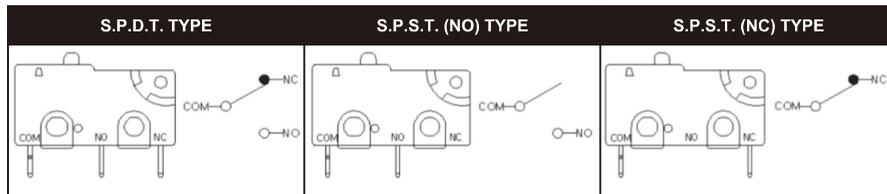
- Small compact and precision operation / 灵敏度高
- Variety of actuators and contact configuration / 多类型的操作方式
- Global safety approvals / 拥有全球广泛的安规认证
- Customized designs / 可接受客户定制
- Long life and high reliability / 高稳定性，具有较长的寿命
- Widely used in appliance control, electronic, equipment, automatic, etc  
 广泛用于家用电器，电子电器产品，自动化设备等等



**+** **+** **+** 规格 (SPECIFICATIONS)

Rating / 额定功率	5A	5A, 125/250VAC 0.1A 48VDC
	0.1A	0.1A, 125/250VAC 0.1A 48VDC
Operating Frequency / 操作频率	Electrical	10 ~ 30 cycle/minute / 10-30次/分钟
	Mechanical	60 cycle/minute / 60次/分钟
Insulation Resistance/绝缘电阻		100MΩ Min / 最小100MΩ
Contact Resistance/接触电阻		100mΩ Max (500VDC) / 最大 100mΩ (500VDC)
Dielectric Voltage/电介质强度		1,000VAC, 50/60/Hz for 1minute between noncontinuous terminals 在不连续端子之间的 1分钟为 1,000VAC, 50/60/Hz
Humidity/湿度		-25 ~ 125%
Ambient temperature/环境温度		-25°C ~ 130°C
Service Life/使用寿命	Electrical/电气寿命	50,000 cycle / 50,000次
	Mechanical/机械寿命	1,000,000 cycle / 1,000,000次

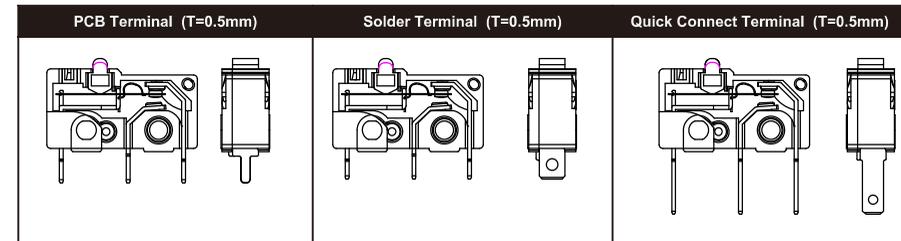
**+** **+** **+** 接触形式 (CONTACT CONFIGURATION)



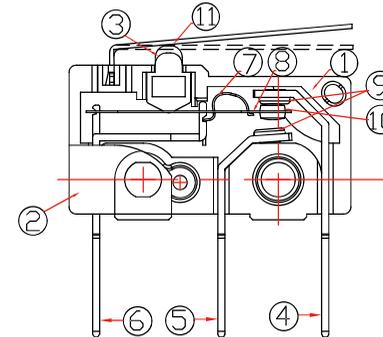
**+** **+** **+** 型名分类 (NOMENCLATURE BREAKDOWN)

S	A	B	C	D	E	F
Micro switch 微动开关	Rating 额定功率	Actuators Type 操作类型	Terminal Type 端子类型	Circuit Type 通电路型	Operating Force 操作力	Lever Position 支架位置
STARION MIDDLE MICRO SWITCH	5	– Pin Plunger	C Quick Connect Terminal	1 SPDT	3 MAX100g	– None – Standard
		1 Short Lever	S Solder Terminal	2 SPST - NC	5 MAX 150g	
	2 Hinge Lever	P PCB Terminal	3 SPST - NO	6 MAX 200g		
	3 Long Lever			7 MAX 250g		
	4 R Type Lever			8 MAX 350g		
	5 Roller Lever					
6 Long Roller Lever						

**+** **+** **+** 中型微动开关定制种类 (MIDDLE MICRO SWITCH ORDERING INSTRUCTION)



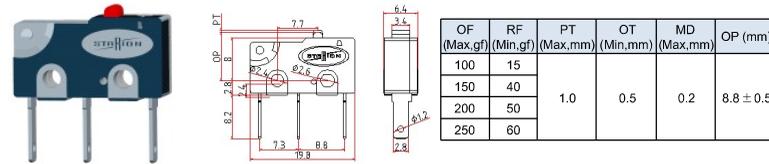
**+** **+** **+** 内部构造图 (INTERNAL CONFIGURATION DRAWING)



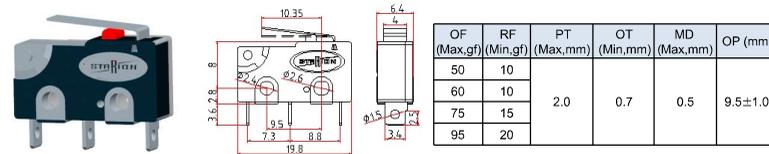
QUANTITY	NUMBER	DESCRIPTION
1	1	CASE
1	2	COVER
1	3	BUTTON
0 or 1	4	TERMINAL B
0 or 1	5	TERMINAL A
1	6	TERMINAL C
1	7	SPRING
1	8	PLATE MOVING
1 or 2	9	TIP, FIXED
1	10	TIP, MOVING
0 or 1	11	LEVER

+ + + 外形尺寸及特性 ( DIMENSION AND FEATURES )

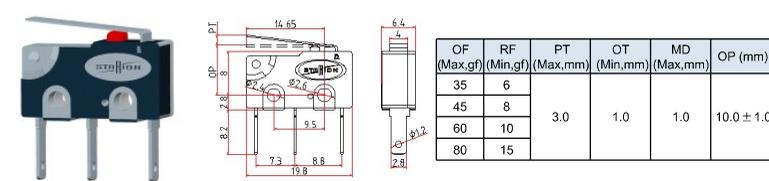
▶ S5C1□



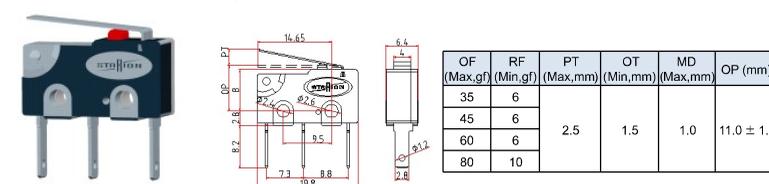
▶ S51S1□ (#1 LEVER)



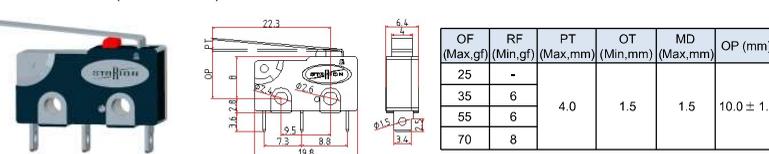
▶ S52C1□ (#2 LEVER)



▶ S52C1□ (#2-1 LEVER)

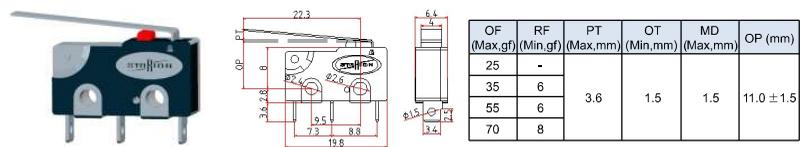


▶ S53S1□ (#3 LEVER)

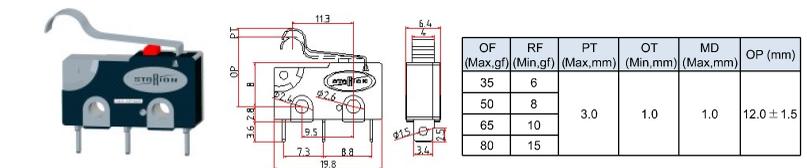


+ + + 外形尺寸及特性 ( DIMENSION AND FEATURES )

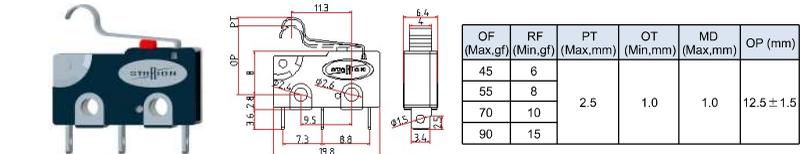
▶ S53S1□ (#3-1 LEVER)



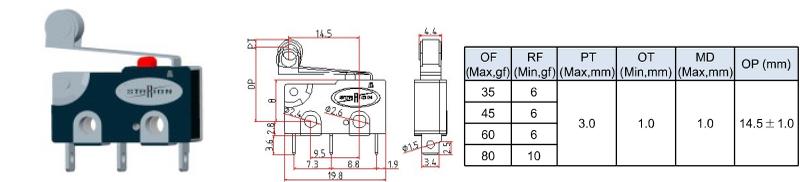
▶ S54P1□ (#4 LEVER)



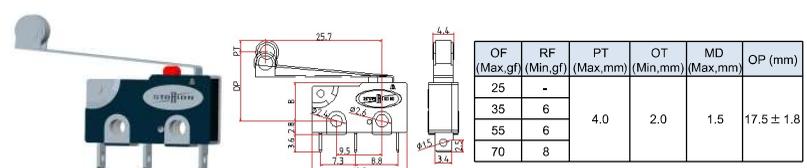
▶ S54S1□ (#4-1 LEVER)



▶ S55S1□ (#5-1 LEVER)



▶ S56S1□ (#6-1 LEVER)



**特性 FEATURES**

- High reliability and long life / 高稳定性，具有较长的寿命
- Global safety approval / 拥有全球广泛的安规认证
- Safe structure and high current / 安全的结构，高电流
- Even if use high currents, the temperature dose not rise much.  
/ 即使使用高压电流，温度也不会升高。
- Depend on slope of the product, automatically  
control the power on or off  
/ 随着产品的倾斜，自动关闭电源



**规格 SPECIFICATION**

Rating / 额定功率	25A	25A, 250VAC T105
	21A	21A, 250VAC T105
	16A	16A, 125/250VAC / 0.6A 125VDC, 0.3A 250VDC T130
Operating Frequency / 操作频率	Electrical / 电气	8 cycle/minute / 8 次/分钟
	Mechanical / 机械	20 cycle/minute / 20 次/分钟
Insulation Resistance / 绝缘电阻	MIN 100mΩ(at 500VDC) / 100mΩ以上 (电压 500VDC)	
Contact Resistance / 接触电阻	MAX 50mΩ / 最大 50mΩ	
Humidity / 湿度	MAX 85% RH / 最大 85%RH	
Ambient temperature / 环境温度	-25°C ~ 105°C (16A, 130°C)	
Service Life / 使用寿命	Electrical / 电气寿命	50,000 cycle / 50,000 次
	Mechanical / 机械寿命	1,000,000 cycle / 1,000,000 次
Weight / 重量	Approx 60g / 约略 60g	

**型名分类 (NOMENCLATURE BREAKDOWN)**

SZM	AB	C	D	E	F	G
	Rating 额定功率	Actuators Type 操作类型	Contact Gap 触点间距	Terminal Type 端子类型	Operating Force 操作力	Circuit Type 通电类型
25A	25A 250VAC	T Tilt Lever	F 1.0 mm	A Solder or # 187 Tab	3 MAX 100g	1 SPDT
21A	21A 250VAC			C # 250 Tab		2 SPST-NC
16A	16A 125/250VAC			D # 187 Tab		3 SPST-NO

**端子类型 Terminal type**

Solder & Quick connect (#187) 0.5T Terminal (A)	Quick connect (#187) 0.5T Terminal (D)	Quick connect (#187) 0.8T Terminal (D)	Quick connect (#250) 0.8T Terminal (C)
<p>1 = 0.5 Three, #187 solder or quick connect terminal</p>	<p>1 = 0.5 Three, #187 quick connect terminal</p>	<p>1 = 0.8 Three, #187 quick connect terminal</p>	<p>1 = 0.8 Three, #250 quick connect terminal</p>

**温度上升试验 Temperature increase test data**

一个30分钟的温升测试应用电流为21A。

其他公司的开关上升了60多度，

但我们的开关不会超过50度。

所以，我们的开关与其他的相对比是比较稳定的。

The result is a 30 minute temperature rise test

applying a current of 21A.

The switch of other company has gone up

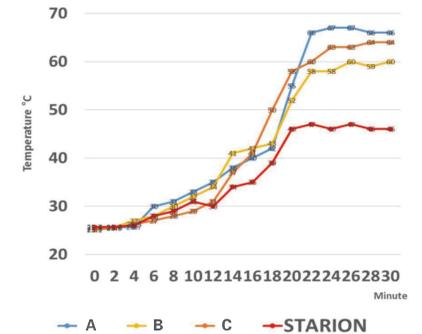
by more than 60 degrees, but our switch

has not gone over 50 degrees.

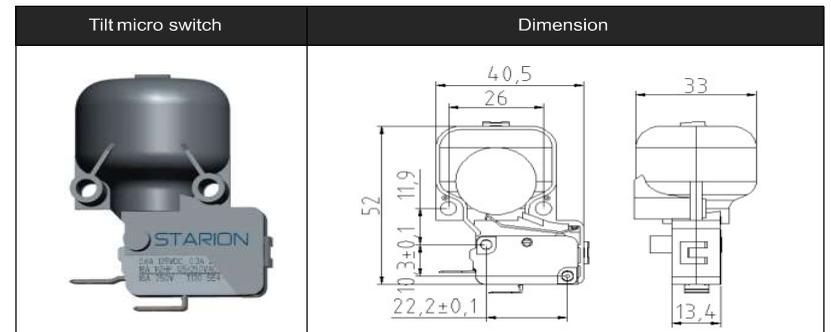
As follow result, our switches are stable compared to

those of other companies.

**Temperature rising Test**

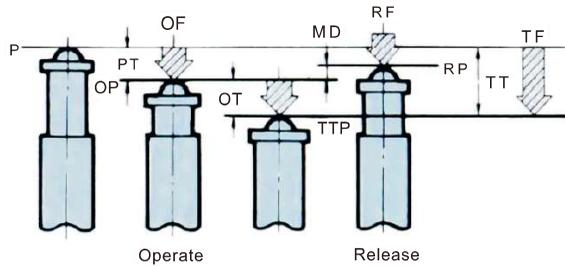


**外形和尺寸 (APPEARANCE AND DIMENSION)**





### 技术资料 (TECHNICAL INFORMATION)



**OF (动作力)**  
施加在开关柱塞或执行器上使触电“弹锁”的力的大小，注意在使用可调节执行器时，力是从杠杆的最大长度位置进行测量的。

**Operating force (OF):**  
The force applied to the actuator required to operate the switch contacts.

**RF (释放力)**  
触点从操作位置快速返回至非操作位置那一刻仍施加在开关柱塞或执行器上的力的大小。

**Releasing force (RF):**  
The value to which the force on the actuator must be reduced to allow the contacts to return to the normal position.

**OP (动作位置)**  
开关柱塞或执行器，在触点从正常位置快动至动作位置那一刻的位置，使用挠性或可调节执行器时，操作位置是从杠杆末端或按其最大长度测量操作位置的测量方位键安装尺寸图纸。

**Operating position(OP):**  
The position of the actuator at which the contacts snap to the operated contact position.

**PT (预行程)**  
将柱塞或执行器从自由位置移动至操作位置的行程距离或角度。

**Pretravel(PT):**  
The distance or angle through which the actuator moves from the free position to the operating position.

**OT (超行程)**  
柱塞或执行器安全行程可达到的超出操作位置以外的行程。

**Overtravel(OT):**  
The distance or angle of the actuator movement beyond the operating position.

**MD (差动行程)**  
从触电“弹锁”点至触点“急速返回”点的柱塞或执行器行程。

**Movement differential (MD):**  
The distance or angle from the operating position to the releasing position.

**TT (全行程)**  
从执行器自由位置至行程极限位置的距离。

**Total travel(TT):**  
The sum of the pretravel and total overtravel expressed by distance or angel.

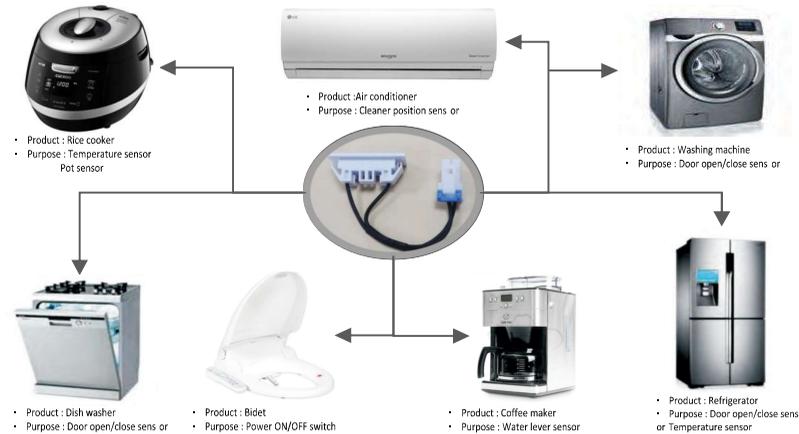
### 特性 FEATURES

- High reliability and high quality / 高可靠性，高质量
- Safe structure and high voltage / 安全的结构，高电压
- Long life and stability 长寿命和稳定性
- Small compact and precision operation / 小型设计，精密的动作
- Customized design / 顾客定制式设计
- Transmit signal without touch / 无接触感应通电



### 使用用途 USAGE

- Reed switch is very safe switch that widely used in the home appliance and automobile industry.  
干簧管是一款非常安全的开关，广泛应用于家用电器和汽车工业。



### 规格 SPECIFICATION

Parameter	Rated Value	Unit	REMARK
<b>Pull-in Value (PI)</b>	10 ~ 40	AT	The specification can be made according to customer request.
<b>Drop-out Value (DO)</b>	4 min	AT	
<b>Contact Resistance (CR)</b>	MAX 100	mΩ	
<b>Breakdown Voltage</b>	MIN 250	VDC	
<b>Insulation Resistance</b>	10 <sup>10</sup>	Ω	
<b>Electrostatic Capacitance</b>	MAX 0.3	pF	
<b>Contact Rating</b>	10	VA	
<b>Maximum Switch Voltage</b>	200 DC	V	
	150 AC	V	
<b>Maximum Switching Current</b>	0.5	A	
<b>Maximum Carry Current</b>	1.0	A	

**+** International safety certification

**■** V type Micro switch UL certification



**■** S type Micro switch certification



**■** V type Micro switch KC certification



**■** VDE certification



**■** CSA certification



**■** CQC certification



**+** 专利证书 (Patent certificate)

