

STARION

创造幸福的仕达利恩 **HAPPY-ON**
STARION

STARION is Keen on developing customer-focused products, As new materials from apace are close to becoming a feasible alternative to earth -based materials , STARION(STAR+IRON)promises to be the launch pad for a better future.



MICRO SWITCH

마이크로 스위치

微动开关

保持V系列开关全球销量第一



仕达利恩惠州
ms.starion.com.cn



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 adverting 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

仕利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

UL, CSA, VDE, SEMKO, CQC品质认证(Micro S/W)
UL, CSA, VDE, SEMKO, CQC Quality authentication (Micro S/W)

2003年

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

工厂搬迁(深圳→惠州)
Factory to moves(S.Z→H.Z)

2004年

CD-ROM“MD Line”安装和生产
CD-ROM“MD Line” Installment and

2005年

“PERSS LINE”和“立式注塑机”安装和生产
“PERSS LINE”&“Vertical casting machine”Installment 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 morth sales volume breaks through 7millions



触点铆铆生产线
Rivetting production line



信赖性实验室
Test Room

2008年

“SLIM Base Assemble”安装和生产
“SLIM Base Assemble” Production
“SLIM Press”生产部成立
“SLIM Press” workshop
模具部成立
Mold department
新工厂搬迁
New factory transfer

2009年

“SLIM MD ASSEMBLE”安装和生产
“SLIM MD ASSEMBLE” Production

2010年

“Traverse Assemble”安装和生产
“Traverse Assemble” Production
“Audio MD Assemble”安装和生产
“Audio MD Assemble” Production

2012年

注塑部成立
injection department
1A开关开发并投产
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品质认证
Audio MD Assemble UL certification

2014年

“Slim Ultra Press”安装和生产
Slim Ultra Press Part Production
无声音开关开发并投产
Micro switch(No-noise) is the development
干簧管开关开发
Reed Switch Assemble is the development



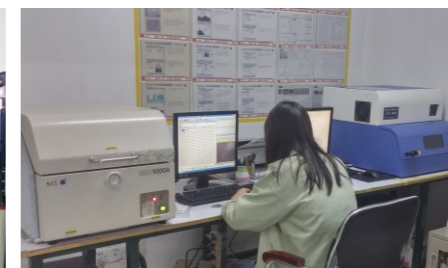
自动生产线
Automatic production line



冲压车间
Press production line



模具部
Mold manufacturing department



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



精密测试分析室(3D)
3D Testing Device

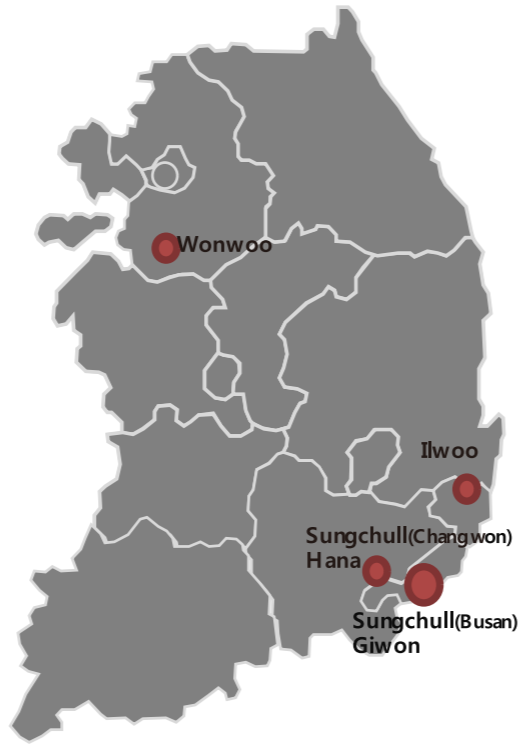


Group Members

++ Korea: 7 companies / 10 factories(韩国: 7个法人/10个生产基地)

Korea Domestic

- **STARION Co., LTD**
#80-5, Geumsa-dong, Geumjeong-gu, Busan, Korea
TEL) 051-523-3103 FAX) 051-523-3105
- **STARION Sungchull Busan**
#1401, Banyeo 1-dong, Haeundae-gu, Busan, Korea
TEL) 051-523-1225 FAX) 051-524-6121
- **STARION Sungchull Changwon**
#66, Seongsan-dong, Seongsan-gu, Changwon, GyeongNam
TEL) 055-269-9000 FAX) 055-269-9036
- **STARION Wonwoo**
 - ▶ Osan : #175-3 Galgot-dong, Osan-si, Gyeonggi-do, Korea
TEL) 031-373-2893 FAX) 031-373-3625
 - ▶ Namsa : #574-2Bongmyeong, Namsa, Yongin, Gyeonggi
TEL) 031-323-3680
 - ▶ Songtan : #433-1Mogok-dong, Pyeongtaek, Gyeonggi
TEL) 031-665-7450 FAX) 031-665-7453
- **STARION Giwon**
 - ▶ Busan : #125-1, Hoedong-dong, Geumjeong-gu, Busan
TEL) 051-528-2241 FAX) 051-528-2241
 - ▶ Changwon : #66, Seongsan, Seongsan, Changwon, Gyeongnam
TEL) 055-289-6755 FAX) 055-289-6774
- **STARION Ilwoo**
#351, Hwasan-ri, Onsan-eup, Ulju-gun, Ulsan, Korea
TEL) 052-238-8967 FAX) 052-239-4851
- **STARION Hana**
#66, Seongsan-dong, Seongsan-gu, Changwon, GyeongNam
TEL)055-266-6670 FAX) 055-262-6636



Group Members



STARION BRAND



++ Overseas: 9 companies / 11 factories (海外: 9个法人/11个生产基地)
China: 3 companies(Huizhou,Nanjin,Taizhou)
中国三个法人(惠州,南京,泰州)

Overseas corporation



ODM / OEM

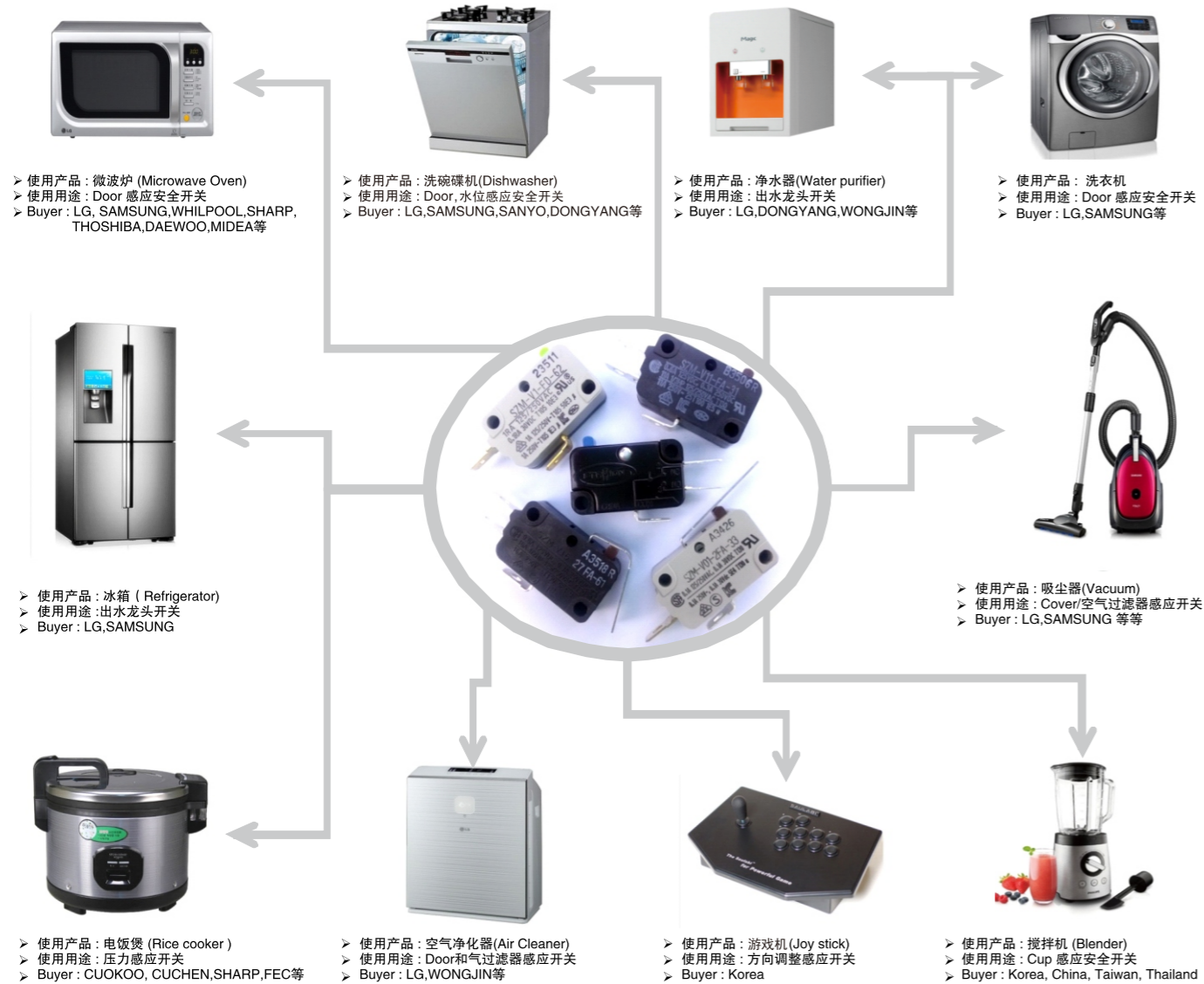




微动开关使用用途 (Micro Switch Use)

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)



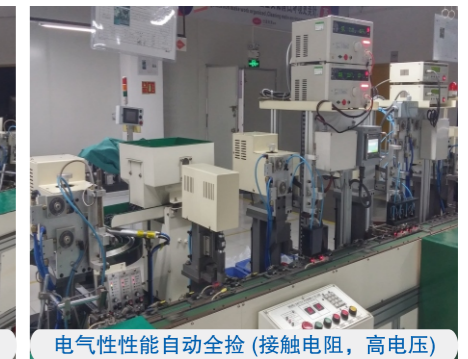
我们拥有全自动化的生产设备，实行全自动化组装及全数检查；我们拥有全套的实验设备，产品的各项性能实行定期的实验检测。

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.

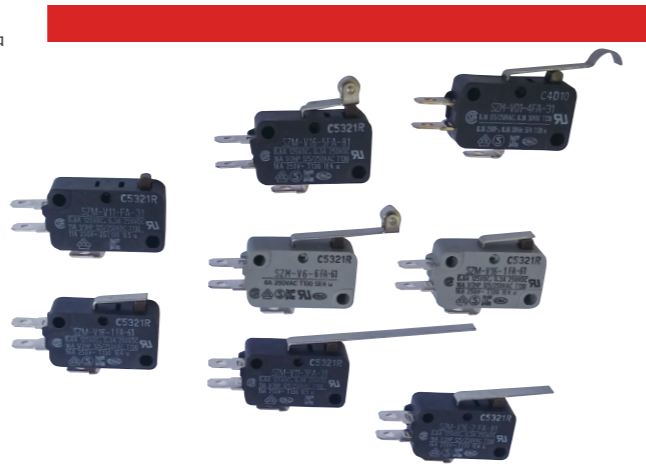
微动开关生产线(Micro Switch Production Line)





+ + + 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 是使用热塑性树脂容器的通用性强的机种。 • 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 millions cycles.
250V AC 16A 250V AC 15A	SZM-V16 SZM-V15	●	下端子 Below	●							●	●	
250V AC 11A 250V AC 10A	SZM-V11 SZM-V10	●	下端子 Below	●			●	●	●				
250V AC 6A 250V AC 5A	SZM-V6 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,S,CQ,K			U,C							
3	1 50g	U,C,V,S,CQ,K		V,U,CQ,cUL	U,C	U,C,K	U,C,V,S,CQ,K	K				
4	3 100g	U,C,V,S,CQ,K		V,U,CQ,cUL	U,C	U,C,K	U,C,V,S,CQ,K	U,C,V,K	U,C,K,CQ			
5	5 150g	V,S,CQ,K		V,U,CQ,cUL	U,C	V,K	U,C,V,S,CQ,K	V,K	U,C,V,K,CQ		U,C,S,CQ,K	
6	6 200g	V,S,CQ,K	U	V,U,CQ,cUL	U,C	V,K	U,C,V,S,CQ,K	U,C,V,K	U,C,V,K,CQ	U,C,K	U,C,V,S,CQ,K	
7	8 300g			V,U,CQ,cUL				V,K	U,C,V,K,CQ		U,C,V,S,CQ,K	
8	9 400g			V,U,CQ,cUL					U,C,V,K,CQ	U,C,K	U,C,V,S,CQ,K	U,C
9	G 600g								V,K,CQ		U,C,V,S,CQ,K	U,C

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

+ + + 型名分类 (NOMENCLATURE BREAKDOWN)

SZM-	V A B	C D E	F G H
	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	C: 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.....) D: 触点间距(Contact Gap) F: 1.0mm E: 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.	F: 动作力(Operating Force) G: 600gf 9: 400gf 8: 300gf 6: 200gf 5: 150gf 3: 100gf 1: 50gf E: 30gf G: 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) H: 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 KIND)

端子种类 (Terminal Kind)	焊料快速连接(A)#187 Solder Quick-connect(#187)Terminal(A)	快速连接(D)#187 Quick-connect(#187)Terminal(D)	快速连接(C)#250 Quick-connect(#250)Terminal(C)
下端子 Under terminal			
端子负指数 terminal Negative exponent			

+ + + 接触形式 (CONTACT CONFIGURATION)

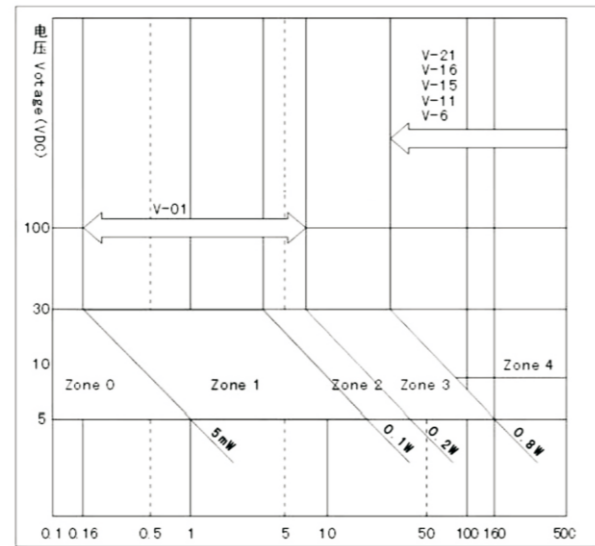
种类 Type	形式 Form	单极双投型(1c) S.P.D.T.(1c)	常时开路型(1a) S.P.S.T.-N.O.(1a)	常时闭路型(1b) S.P.S.T.-N.C.(1b)
下端子型 Under terminal type				



规格 (SPECIFICATIONS)

项目 Item	规格 电压(V) Rated voltage (V)	无引导负载(A) Non-inductive load(A)				引导负载(A) Inductive load(A)				突入电流 Inrush current
		电阻负载 Resis- tive load		照明负载 Lamp load		引导负载 Inductive load		电动机负载 Motor load		
		NC	NO	NC	NO	NC	NO	NC	NO	
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 VAC	16	2	10	3	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 VAC	15	2	10	3	36A max.				
	8 VDC	15	4	10	6					
	30 VDC	10	4	10	4					
	125 VDC	0.6	0.1	0.6	0.1					
11A	250 VAC	11	1.5	6	2	24A max.				
	8 VDC	11	3	6	3					
	30 VDC	10	3	6	3					
	125 VDC	0.6	0.1	0.6	0.1					
6A	250 VAC	6	0.5	4	-	15A max.				
	8 VDC	6	3	4	-					
	30 VDC	5	3	4	-					
	125 VDC	0.4	0.1	0.4	-					
1A	250 VAC	0.2	-	-	-	-				
	8 VDC	0.1	-	-	-					
	30 VDC	0.1	-	-	-					
	125 VDC	0.1	-	-	-					
0.2A	250 VAC	0.2	-	-	-	-				
	8 VDC	0.1	-	-	-					
	30 VDC	0.1	-	-	-					
	125 VDC	0.2	-	-	-					
0.1A	250 VAC	0.1	-	-	-	-				
	30VDC	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 7msec 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)

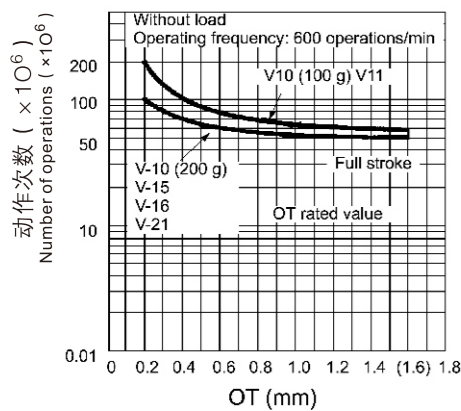
项目 Item	类型 Type	V-21	V-16	V-11	V-6	V-1	V-01	V-02
容许操作速度 Operating speed		0.1mm/s-1.0m/s (柱塞类型 at plunger)						
容许操作频率 Operating frequency		机械 (Mechanically): 600次运行 (operations)/分 (min.) 电气 (Electrically): 20次运行 (operations)/分 (min.)						
触点电阻 Contact resistance		最大: 15mΩ (初始值) 15mΩ max. (initial)			最大: 30mΩ (初始值) 30mΩ max. (initial)	最大: 50mΩ (初始值) 50mΩ max. (initial)	最大: 100mΩ (初始值) 100mΩ max. (initial)	最大: 100mΩ (初始值) 100mΩ max. (initial)
绝缘电阻 Insulation resistance		100MΩ 以上 (DC500V电压) 100MΩ min. (at 500 VDC)						
电介质强度 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到60Hz (Malfunction durability: 10 to 60Hz; 1.5mm double amplitude)						
冲击 Shock	机械耐用性 Mechanical durability	大约为 980m/s ² (大约为 100G's) APPROX. 980m/sec ² (APPROX. 100G's)			大约为 392m/s ² (大约为 40G's) APPROX. 392m/sec ² (APPROX. 40G's)			
	故障耐用性 Malfunction durability	大约为 300m/s ² (大约为 100G's) APPROX. 300m/sec ² (APPROX. 100G's)			大约为 200m/s ² (大约为 20G's) APPROX. 200m/sec ² (APPROX. 20G's)		大约为 100m/s ² (大约为 10G's) APPROX. 100m/sec ² (APPROX. 10G's)	
环境温度 Ambient temperature		常规: -25到130°C (-20到+150°C 苯酚类) operating: -25 to 130°C (-20 to 150°C phenol 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)

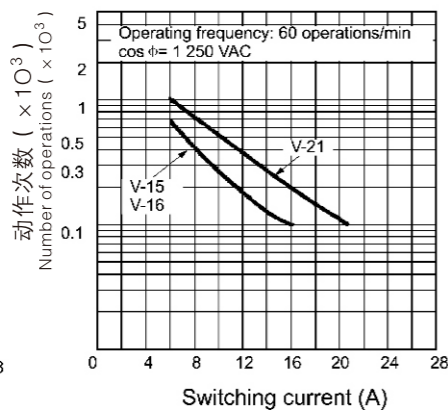
Mechanical Life Expectancy

V-21/-16/-15/-11/-10

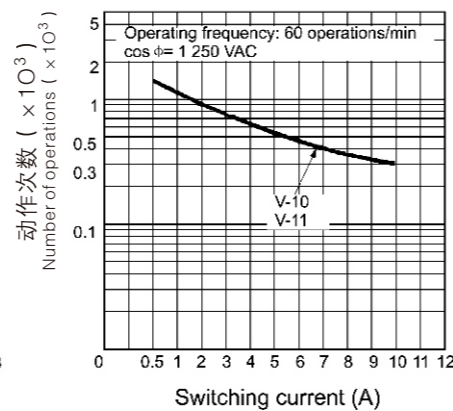


Electrical Life Expectancy

V-21/-16/-15



V-11/-10



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			

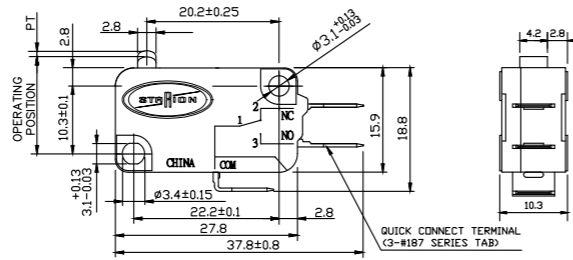




✦ ✦ ✦ 外形尺寸以及特性 (DIMENSIONS AND OPERATING CHARACTERISTICS)

密码按钮型 (PIN PLUNGER)

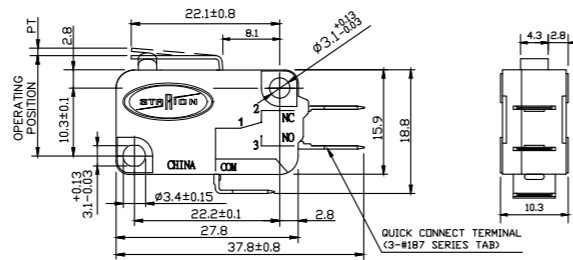
- SZM-V16-FA-61
- SZM-V11-FA-31
- SZM-V6-FA-11
- SZM-V01-FA-F



	V16-□-□	V11-□-□	V6-□-□	V01-□-□
OF Max.	200g	100g	50g	50g 30g
RF Min.	50g	25g	10g	10g 5g
PT Max.	1.2mm	1.2mm	1.2mm	1.2mm
OT Min.	1.0mm	1.0mm	1.0mm	1.0mm
MD Max.	0.4mm	0.4mm	0.4mm	0.4mm
OP	14.7 ± 0.4mm	14.7 ± 0.4mm	14.7 ± 0.4mm	14.7 ± 0.4mm

铰链短杆型 (SHORT HINGE LEVER)

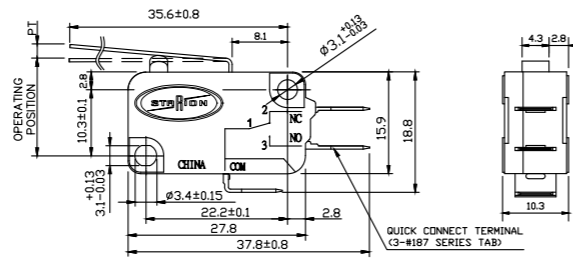
- SZM-V16-1FA-61
- SZM-V11-1FA-31
- SZM-V6-1FA-11
- SZM-V01-1FA-11



	V16-1□-□	V11-1□-□	V6-1□-□	V01-1□-□
OF Max.	200g	100g	50g	50g
RF Min.	50g	15g	6g	6g
PT Max.	1.6mm	1.6mm	1.6mm	1.6mm
OT Min.	0.8mm	0.8mm	0.8mm	0.8mm
MD Max.	0.6mm	0.6mm	0.6mm	0.6mm
OP	15.2 ± 0.5mm	15.2 ± 0.5mm	15.2 ± 0.5mm	15.2 ± 0.5mm

铰链杆型 (HINGE LEVER)

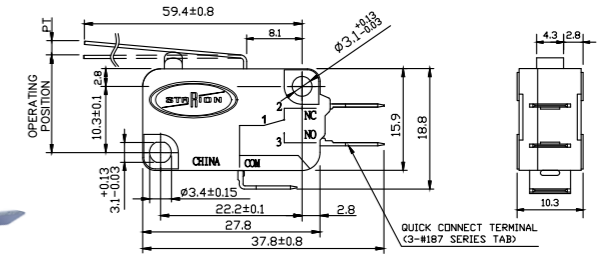
- SZM-V16-2FA-61
- SZM-V11-2FA-31
- SZM-V6-2FA-11
- SZM-V01-2FA-11



	V16-2□-□	V11-2□-□	V6-2□-□	V01-2□-□
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	15.2 ± 1.2mm	15.2 ± 1.2mm	15.2 ± 1.2mm	15.2 ± 1.2mm

铰链长杆型 (LONG HINGE LEVER)

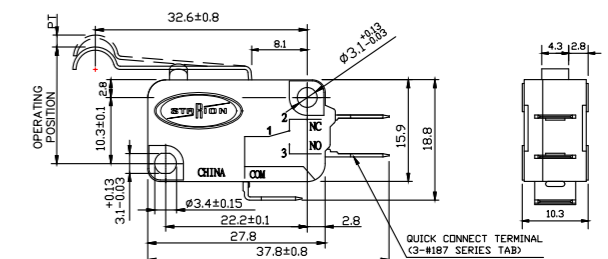
- SZM-V16-3FA-61
- SZM-V11-3FA-31
- SZM-V6-3FA-11
- SZM-V01-3FA-11



	V16-3□-□	V11-3□-□	V6-3□-□	V01-3□-□
OF Max.	70g	35g	20g	20g
RF Min.	6g	--	--	--
PT Max.	9.0mm	9.0mm	9.0mm	9.0mm
OT Min.	2.0mm	2.0mm	2.0mm	2.0mm
MD Max.	2.8mm	2.8mm	2.8mm	2.8mm
OP	15.2 ± 2.6mm 3.3mm	15.2 ± 2.6mm	15.2 ± 2.6mm	15.2 ± 2.6mm

铰链R杆型 (SIMULATED HINGE LEVER)

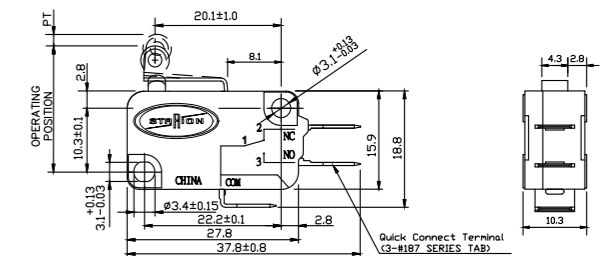
- SZM-V16-4FA-61
- SZM-V11-4FA-31
- SZM-V6-4FA-11
- SZM-V01-4FA-11



	V16-4□-□	V11-4□-□	V6-4□-□	V01-4□-□
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	18.7 ± 1.2mm	18.7 ± 1.2mm	18.7 ± 1.2mm	18.7 ± 1.2mm

铰链轮式短杆型 (SHORT HINGE ROLLER LEVER)

- SZM-V16-5FA-61
- SZM-V11-5FA-31
- SZM-V6-5FA-11
- SZM-V01-5FA-11



	V16-5□-□	V11-5□-□	V6-5□-□	V01-5□-□
OF Max.	240g	120g	60g	60g
RF Min.	50g	15g	6g	6g
PT Max.	1.6mm	1.6mm	1.6mm	1.6mm
OT Min.	0.8mm	0.8mm	0.8mm	0.8mm
MD Max.	0.6mm	0.6mm	0.6mm	0.6mm
OP	20.7 ± 0.6mm	20.7 ± 0.6mm	20.7 ± 0.6mm	20.7 ± 0.6mm

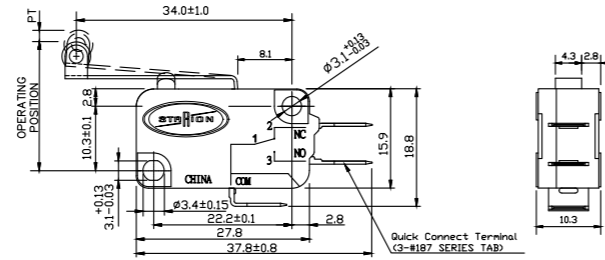


铰链轮式杆型
(HINGE ROLLER LEVER)

- SZM-V16-6FA-61
- SZM-V11-6FA-31
- SZM-V6-6FA-11
- SZM-V01-6FA-11



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

⚠ 为了安全设计及安全使用的注意事项

⚠ Directions for Design and Safe Use

1. 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)动作频繁度(频率)要跟性能表比较确认后, 才可设计及使用。-超过可用频繁度(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. 电源按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, 使用不符合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。

1. 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), 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.

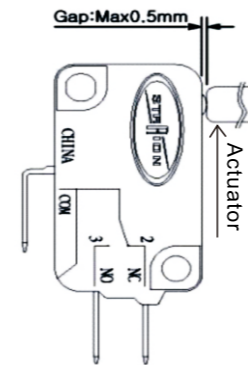
4. Because the switch's allowable current is different by AC, DC and load type, be sure to use the proper power according to the rating.

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 the 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。

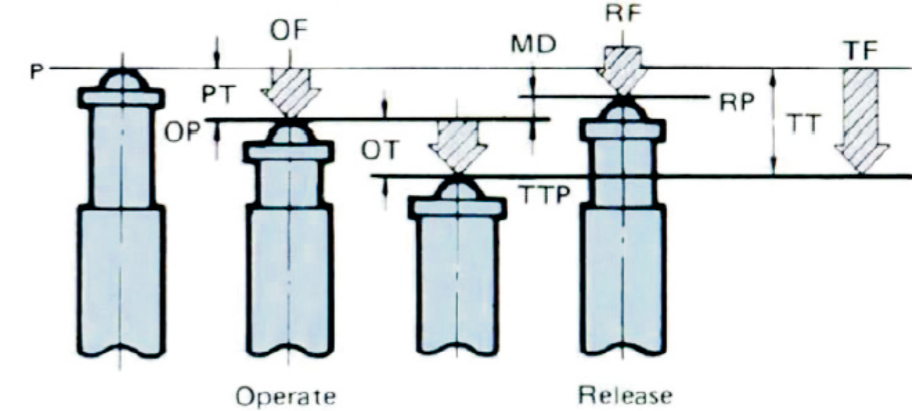
Actuator must be fully pressed to improve the contact pressure. It can prevent the High temperature heat of MICRO SWITCH.

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+++ 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。

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。

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。

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。

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。

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。

TT (全行程)

从执行器自由位置至行程极限位置的距离。

Operating force (OF):

The force applied to the actuator required to operate the switch contacts.

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.

Operating position(OP):

The position of the actuator at which the contacts snap to the operated contact position.

Pretravel(PT):

The distance or angle through which the actuator moves from the free position to the operating position.

Overtravel(OT):

The distance or angle of the actuator movement beyond the operating position.

Movement differential (MD):

The distance or angle from the operating position to the releasing position.

Total travel(TT):

The sum of the pretravel and total overtravel expressed by distance or angel.



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