

G9系列 / G9 Series

小型防水防塵微動開關

Subminiature Sealed Micro Switch



■特點/Features

- ◆ 防水防塵(IP67)設計
- ◆ 體積小巧,結構緊湊
- ◆ 長壽命, 高可靠性
- ◆ 接線端子種類齊全
- ◆ 配備各種形式操作柄
- ◆ 廣泛應用於各種汽車控制、家用及工業控制等領域

- Dust and Water Proof(IP67)Design
- Small Compact Size
- Long Life,High Reliability
- Vareity of Terminals and Levers
- Widely used in Auto Control,Appliance and Other Industry Control

■應用/Application

- ◆ 汽車/Car
- ◆ 電話/Phone
- ◆ 空調/Air-Conditioner
- ◆ 計算機/Computer
- ◆ 增濕器/Humidifier
- ◆ 報警器/Alarmer
- ◆ 計時器/Timer
- ◆ 混合器與切肉機/Mixer&Meat Grinder
- ◆ 焊接槍/Welding Machine
- ◆ 氖電話/Neon Phone
- ◆ 傳真機/Fax Machine

- 遊戲控制杆/Game Controller
- 水泵/Pump
- 汽油探測器/Gas Detector
- 卷筆刀/Pencil Sharpener
- 錢幣分類機/Money Sorter
- 食品加工機/Food Processor
- 電切刀/Electric Knife
- 玩具汽車/Toy Car
- 榨汁機/Juice Extractor
- 照明設備/Lighting Equipment
- 電動煎鍋/Electric Frying Pan

■特性參數/Parameters:

額定值/Rating	P1	0.1A 125/250VAC 48VDC 觸點可選鍍金/Gold Plated Contact Optional
	05	UL: 5A 125/250VAC ENEC:6A 125/250VAC 1E4 ;3A 125/250 VAC 30VDC 5E4 μ25T120
操作頻率 Operating Frequency	電氣/Electrical	10~30次/分 cycles/minute
	機械/Mechanical	120次/分 cycles/minute
初始接觸電阻/Contact Resistance(Initiative)		100m Ω Max(導線型視導線長短變化/It depends on the wire length for the type with wire)
絕緣電阻/Insulation Resistance(at 500VDC)		100MΩ Min
抗電強度/Dielectric Strength		AC 1,000V RMS (50~60Hz)
保存溫度/Storage Temperature		-25°C ~ +120°C
保存濕度/Storage Humidity		85% RH Max
壽命/Service Life	電氣/Electrical	10,000 ~ 100,000次/cycles(取決於具體型號/Depend on part No.)
	機械/Mechanical	500,000次/cycles

G9系列微动开关订货型号指引

G9 Series Micro Switch Ordering Instruction

G9	05	150	S	00	D	1	A	AWG Type (for with wire type only) (仅适用于带线型)	AWG Number (For with wire type only) (仅适用于带线型)	Wire Length 线长
Switch Type 开关类别	Electrical Rating 额定负载	Max Operating Force at pin plunger 操作力最大值 数据在不带操作柄测得	Terminal Type 端子类型	Lever Type 操作柄的类型	Construction 接触形式	Circuit Code 接触形式	Special Designator 特别设计代码			
G9 Series Micro-Switch	P1 ENEC/CQC: 0.1A 125/250VAC 48VDC 5E4 u 25T120 UL/CUL: 0.1A 125/250VAC 48VDC 触点可选镀金/Gold plated contact optional	100 100gf Max. 仅适用于G91系列/Only for G91 series	S Solder Terminals 焊接端子	00 Spherical Pin Plunger 球形柱式按动	D Dust proof -IP00 防尘型-IP00 不带线	1 SPDT 单掷单投	General 通用型 (温度等级/ Temperature grade G9: 25T120 G91: 40T125)	20#	UL1007	标准长度: 500mm Standard length: 500mm
G9系列微动开关	05 ENEC/CQC: 6A 125/250VAC 1E4; u 3A 125/250VAC 30VDC 5E4 (仅适用于G9/only for G9) 5A 125/250VAC 5E4 u (仅适用于G91/only for G91) 5A 125/250VAC (仅适用于G9/only for G9) 5A 18HP 125/250VAC (仅适用于G91/only for G91)	150 150gf Max. 仅适用于G91, G91P1, G9105	P Straight PCB Terminals (0.6mm wide) 直PCB端子 (0.6mm 宽)	0A Arc Pin Plunger 弧面柱式按动 (仅适用于G91/only for G91)	W Water proof -IP67 With lead wires 防水型-IP67 带引出线	2 SPST-NC 单掷单投-常闭	A Gold Plated Contacts (Optional Only for G91, 触点镀金可选, 仅适用于G91系列)	F 22#	B UL1569	
G91 Series Micro-Switch	10 ENEC/CQC: 10(L,5)A 125/250VAC u UL/CUL: 10.1A 1/4HP 125/250VAC 注: 只适用于G91 (Note: Only for G91) OF=250gf/Min	200 200gf Max.	D 0.11"±0.023" Outlet 10#特型直插端子 2.80X0.6mm (适用于G9/only for G9) 2.80X0.5mm (适用于G91/only for G91)	01 Short Straight Lever 17.7mm (0.70") 短直柄 17.7mm	E Dust proof (two side posts)防尘型 (双侧柱子), 仅适用于G91系列/only for G91 series	3 SPST-NO 单掷单投-常开	D Special use for high DC rating. 特别用于大电流直插负载。	G 24#	C UL1430	
G91系列微动开关		250 250gf Max. 仅适用于G91系列/Only for G91 series	R 右面PCB端子 Right Angled PCB Terminals (仅适用于G91/only for G91)	02 Sid. Straight Lever 19.7mm (0.78") 侧直柄 19.7mm	F Dust proof (right side posts)防尘型 (右侧柱子), 仅适用于G91系列/only for G91 series		T Temperature grade 温度等级 40T125 (仅适用于G91系列/only for G91 series)	H 26#	D UL1061	
		300 300gf Max.	L 左面PCB端子 Left Angled PCB Terminals (仅适用于G91/only for G91)	03 Long Straight Lever 25.8mm (1.02") 长直柄 25.8mm	G Dust proof (left side posts)防尘型 (左侧柱子), 仅适用于G91系列/only for G91 series		Other 其他	M 28#	E UL1330	
			K Wide Straight PCB Terminals (1.3mm wide) 宽直PCB端子 (1.3mm 宽) (仅适用于G91/only for G91)	05 Small Simulated Roller Lever 18.9mm (0.75") 小型模拟滚轮手柄 18.9mm				J 30#	F AVSS	
			E Wires leads to bottom (500mm) 底面出线 (500mm) (500mm) (不適用於G91/Not apply to G91)	06 Roller Lever 15.7mm (0.62") 带滚轮手柄 15.7mm				K 32#	G UL3266	
			F Wires leads to side (500mm) (opposite to plunger) 侧面出线-按手侧对面 (500mm 长) (不適用於G91/Not apply to G91)	07 Small Simulated Roller Lever 19.0mm 小型模拟滚轮手柄 19.0mm				L 34#	H UL1332	
			G Wires leads to side (500mm) (plunger side) 侧面出线-按手侧 (500mm 长) (不適用於G91/Not apply to G91)	12 Longest Straight Lever 56.2mm (2.23") 超长直柄 56.2mm					K UL1015	
			... Special Terminals 特殊端子	... Other 其他						

G9系列
G9 Series

端子類、操作柄類型、安裝孔位、接觸形式、外形介紹
Terminal Type, Lever Type, Mounting Hole, Circuit, Shape

■端子類型/Terminal Type

<p>S#: Solder Terminals 焊接端子</p>	<p>E#: Wires Leads to Bottom (500mm length) 導線型，底面出線，綫長500mm</p>
<p>P#: Straight PCB Terminals 直PCB端子</p>	<p>F#: Wires Leads to Side(Opposite to Pin plunger side), 500mm length. 導線型，右面(按墊相對側)出綫綫長500mm.</p>
<p>D#: 110# Quick Connect Terminals; 2.8mmX0.6mm 110#快速連接端子2.8mmX0.6mm</p>	<p>G#: Wires Leads to Side(Pin plunger side), length:500mm . 導線型，左面(按墊側)出綫綫長500mm</p>

■操作柄類型/Lever Type

<p>00#: Pin Plunger 柱式按墊</p>	<p>01#: Short Straight Lever 17.7mm 短直柄 17.7mm</p>

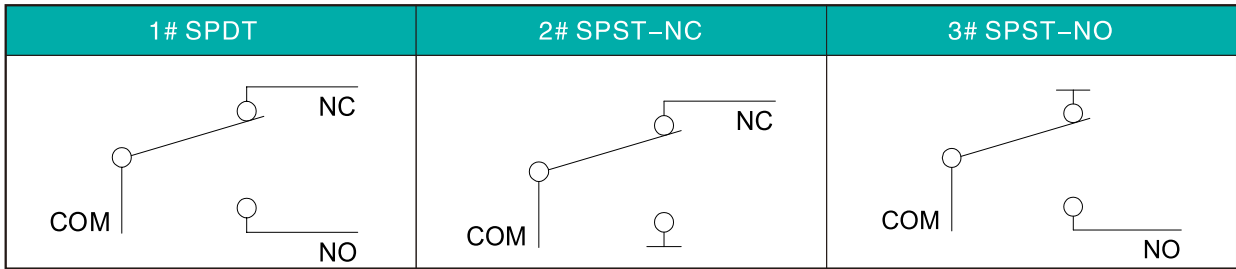
■ 操作柄類型 / Lever Type

<p>02# : Standard Straight Lever 19.7mm 標準直手柄 19.7mm</p>	<p>03# : Long Straight Lever, 25.8mm 長直柄 25.8mm</p>
<p>05# : Simulated Roller Lever 18.9mm 小型模擬滾輪手柄 18.9mm</p>	<p>06# : Roller Lever 15.7mm 滾輪手柄 15.7mm</p>
<p>07# : Small Simulated Roller Lever 19.0mm 小型模擬滾輪手柄 19.0mm</p>	<div data-bbox="842 1037 1209 1213"> <p>直徑 2-Ø2.3 的安裝孔 或 M2.2 的螺絲孔 2-Ø2.3 Mounting Hole or M2.2 Screw Hole</p> </div> <div data-bbox="842 1239 1209 1414"> <p>COM NO NC 3-1.35-1.56mm 5.35 9.50 ± 0.1 8.90 ± 0.1 16.20 ± 0.1</p> <p>活塞位置 (plunger position)</p> </div> <div data-bbox="1220 1110 1434 1164"> <p>■ 安裝孔尺寸 Mounting Hole Dimensions (單位/Unit:mm)</p> </div> <div data-bbox="1220 1325 1460 1379"> <p>■ PCB 端子安裝孔 Mounting Hole of PCB Terminals (單位/Unit:mm)</p> </div>

■ IP 等級 / IP grade

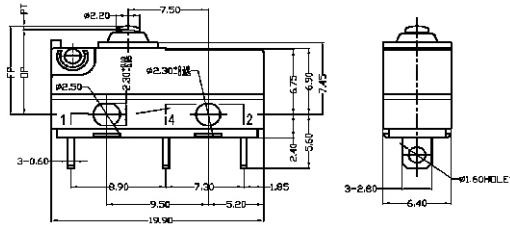
<p>D# : Without Lead Wires Type, Plunger and Body are Water Proof(IP67); Terminals are not Water Proof(IP00) 按摳及開關本體防塵防水(IP67), 端子無防塵防水設計(IP00)</p>	<p>W# : With Lead Wires Type, Water Proof (IP67) 防水型 IP67 帶引出線</p>
<div data-bbox="263 1627 726 1757"> <p>Plunger and Body are Water Proof(IP67) 按摳及開關本體防水設計(IP67)</p> <p>Terminals are not Water Proof(IP00) 端子未封裝, 無防水設計(IP00)</p> </div>	<div data-bbox="901 1627 1364 1778"> <p>Plunger and Body are Water Proof(IP67) 按摳和開關本體防塵防水設計(IP67)</p> <p>Water Proof(IP67) Design with Lead Wires 端子封裝引線防水設計(IP67)</p> </div>

■ 接觸形式圖/Circuit Configuration



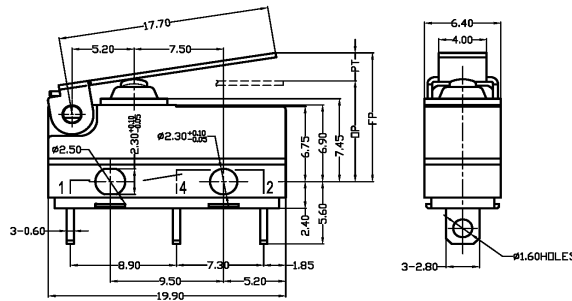
■ 外形尺寸和操作特性/Dimensions and Operating Characteristics

◆ G9□□-□□□S00D1



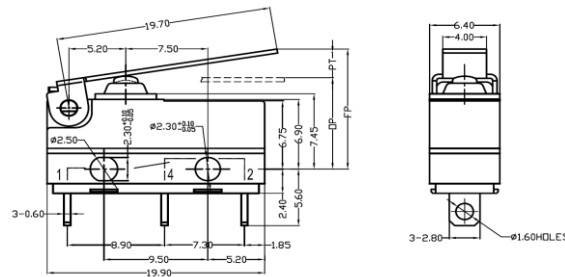
OF Max. (gf)	RF Min. (gf)	PT Max. (mm)	OT Min. (mm)	DT Max. (mm)	FP Max. (mm)	OP (mm)
150	150	30	1.2	0.6	0.2	9.4
-200	200	50	1.2	0.6	0.2	9.4

◆ G9□□-□□□S01D1



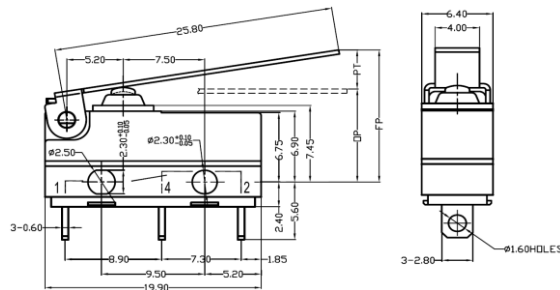
OF Max. (gf)	RF Min. (gf)	PT Max. (mm)	OT Min. (mm)	DT Max. (mm)	FP Max. (mm)	OP (mm)
-150	50	8.0	4.3	0.6	0.7	12.0
-200	90	15	4.3	0.6	0.7	12.0

◆ G9□□-□□□S02D1



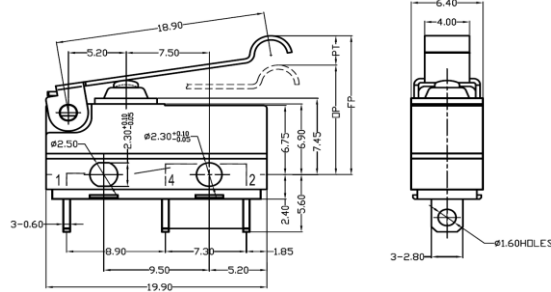
OF Max. (gf)	RF Min. (gf)	PT Max. (mm)	OT Min. (mm)	DT Max. (mm)	FP Max. (mm)	OP (mm)
-150	50	6	4.8	0.7	0.8	12.5
-200	75	13	4.8	0.7	0.8	12.5

◆ G9□□-□□□S03D1



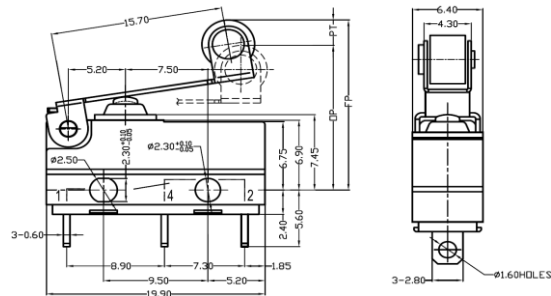
OF Max. (gf)	RF Min. (gf)	PT Max. (mm)	OT Min. (mm)	DT Max. (mm)	FP Max. (mm)	OP (mm)
-150	40	5	6.3	1.0	1.0	13.5
-200	55	8	6.3	1.0	1.0	13.5

◆G9□□-□□□S05D1



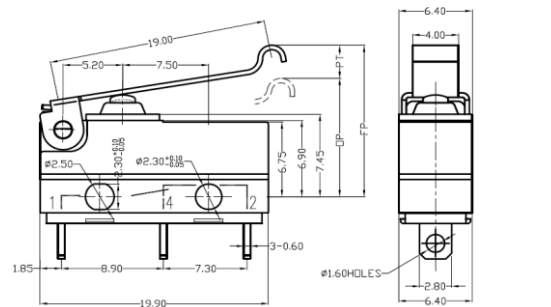
OF Max. (gf)	RF Min. (gf)	PT Max. (mm)	OT Min. (mm)	DT Max. (mm)	FP Max. (mm)	OP (mm)
-150	50	6	4.6	0.7	0.8	15.5
-200	75	12	4.6	0.7	0.8	15.5

◆G9□□-□□□S06D1



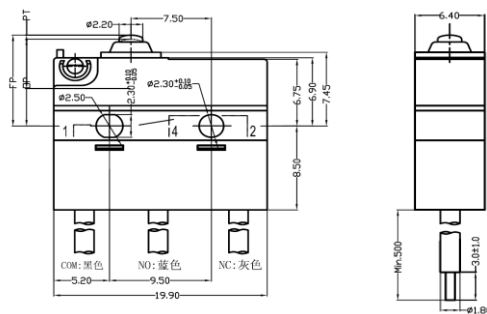
OF Max. (gf)	RF Min. (gf)	PT Max. (mm)	OT Min. (mm)	DT Max. (mm)	FP Max. (mm)	OP (mm)
-150	65	10	4.3	0.6	0.7	17.5
-200	85	15	4.3	0.6	0.7	17.5

◆G9□□-□□□S07D1



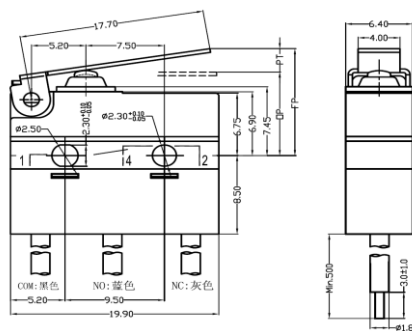
OF Max. (gf)	RF Min. (gf)	PT Max. (mm)	OT Min. (mm)	DT Max. (mm)	FP Max. (mm)	OP (mm)
-150	50	9	4.6	0.7	0.8	14.0
-200	75	12	4.6	0.7	0.8	14.0

◆G9□□-□□□E00W1



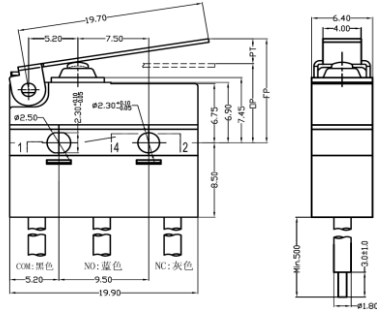
OF Max. (gf)	RF Min. (gf)	PT Max. (mm)	OT Min. (mm)	DT Max. (mm)	FP Max. (mm)	OP (mm)
-150	150	30	1.2	0.6	0.2	9.4
-300	300	70	1.2	0.6	0.2	9.4

◆G9□□-□□□E01W1



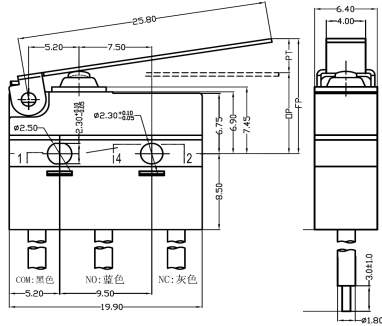
OF Max. (gf)	RF Min. (gf)	PT Max. (mm)	OT Min. (mm)	DT Max. (mm)	FP Max. (mm)	OP (mm)
-150	50	8	4.3	0.6	0.7	12.0
-300	105	20	4.3	0.6	0.7	12.0

◆ G9□□-□□□E02W1



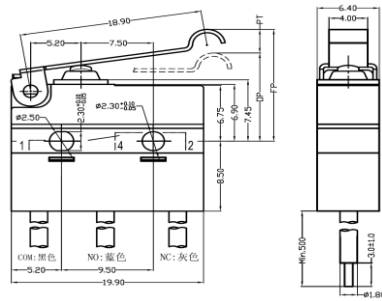
	OF Max. (gf)	RF Min. (gf)	PT Max. (mm)	OT Min. (mm)	DT Max. (mm)	FP Max. (mm)	OP (mm)
-150	50	6	4.8	0.7	0.8	12.5	8.8±1.3
-300	95	18	4.8	0.7	0.8	12.5	8.8±1.3

◆ G9□□-□□□E03W1



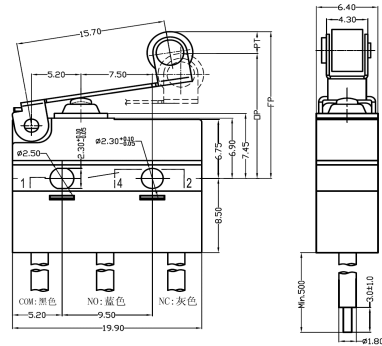
	OF Max. (gf)	RF Min. (gf)	PT Max. (mm)	OT Min. (mm)	DT Max. (mm)	FP Max. (mm)	OP (mm)
-150	40	5	6.3	1.0	1.0	13.5	8.8±1.8
-300	75	13	6.3	1.0	1.0	13.5	8.8±1.8

◆ G9□□-□□□E05W1



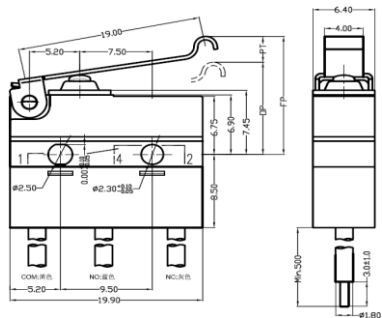
	OF Max. (gf)	RF Min. (gf)	PT Max. (mm)	OT Min. (mm)	DT Max. (mm)	FP Max. (mm)	OP (mm)
-150	50	6	4.6	0.7	0.8	15.5	11.8±1.5
-300	95	18	4.6	0.7	0.8	15.5	11.8±1.5

◆ G9□□-□□□E06W1



	OF Max. (gf)	RF Min. (gf)	PT Max. (mm)	OT Min. (mm)	DT Max. (mm)	FP Max. (mm)	OP (mm)
-150	65	10	4.3	0.6	0.7	17.5	14.5±1.1
-300	110	25	4.3	0.6	0.7	17.5	14.5±1.1

◆ G9□□-□□□E07W1



	OF Max. (gf)	RF Min. (gf)	PT Max. (mm)	OT Min. (mm)	DT Max. (mm)	FP Max. (mm)	OP (mm)
-150	50	6	4.6	0.7	0.8	14.0	10.7±1.5
-300	95	18	4.6	0.7	0.8	14.0	10.7±1.5

G91系列 / Series-G91

小型微动开关

Subminiature Micro Switch



■特點/Features

- ◆ 體型小巧，結構緊湊
- ◆ 長壽命，高可靠性
- ◆ 端子種類齊全
- ◆ 配備各種形式操作柄
- ◆ 廣泛應用於家用及工業控制等領域
- Small Compact Size
- Long Life, High Reliability
- Vareity of Terminals and Levers
- Widely Used in Auto, Appliance and Other Industry Control

■應用/Application

- ◆ 汽車/Auto
- ◆ 電話/Phone
- ◆ 空調/Air-Conditioner
- ◆ 計算機/Computer
- ◆ 報警器/Alarm
- ◆ 計算器/Timer
- ◆ 混合器與切肉刀/Mixer&Meat Grinder
- ◆ 傳真機/Fax Machine
- ◆ 錢幣分類機/Money Sorter
- ◆ 玩具汽車/Toy Car

■特性參數/Parameters:

額定值/Rating	P1	ENEC/UL:0.1A 125/250V 48VDC 觸點可選鍍金/Gold Plated Contact Optional
	05	ENEC:5A 125/250VAC;UL: 5A 1/8HP, 125/250VAC
	10	ENEC:10(1.5)A 125/250VAC;UL:10.1A 1/4HP 125/250VAC
操作頻率 Operating Frequency	電氣/Electrical	10~30次/分 cycles/minute
	機械/Mechanical	120次/分 cycles/minute
初始接觸電阻/Contact Resistance(Initiative)		100m Ω Max
絕緣電阻/Insulation Resistance(at 500VDC)		100M Ω Min
抗電強度/Dielectric Strength		AC 1,000V RMS (50~60Hz)
操作溫度/Operating Temperature		-40° C ~ +125° C 或/or -40° C ~ +85° C
保存濕度/Storage Humidity		85% RH Max
壽命/Service Life	電氣/Electrical	10,000 ~ 100,000次/cycles(取決於具體型號/Depend on part No.)
	機械/Mechanical	1,000,000次/cycles

■訂貨指引 Ordering Instructicon

參見第 36 頁/Refer to Page 36

■G91端子類型/Terminal type for G91

(單位/Unit:mm)

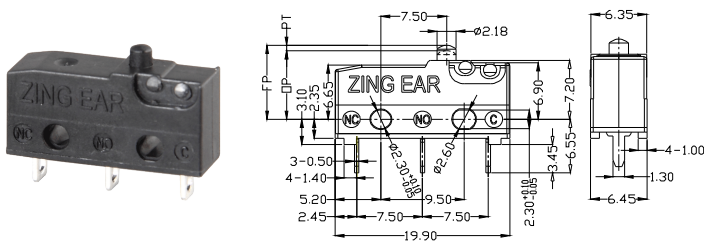
<p>S型/Type 焊接端子/Solder Terminals</p>	<p>P型/Type 直PCB端子 (0.6mm寬)/Straight PCB Terminals(0.6mm wide)</p>
<p>D型/type 110#快速連接端子 (2.8×0.5mm) 110# Quick Connect Terminals</p>	<p>R型/Type 右側面PCB端子/Right Angled PCB Terminals</p>
<p>L型/Type 左側面PCB端子 Left Angled PCB Terminals</p>	<p>K型/type 寬直PCB端子 (1.3mm寬) Straight PCB Terminals (1.3mm Wide)</p>

■G91安裝類型/Mounting Type for G91

<p>安裝柱型/Mouting Post Type</p>	<p>安裝孔型/Mouting Hole Type</p>
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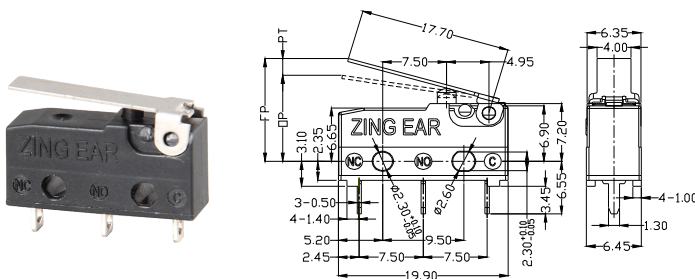
■外形尺寸和操作特性/Dimensions and Operating Characteristics

◆柱式按摁 Pin Plunger



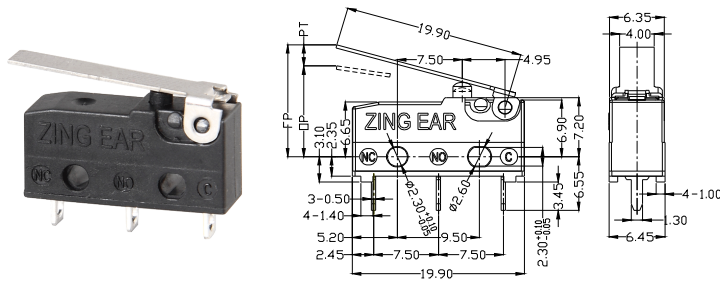
型号 Part No.	操作参数/Parameters							
	OF Max.		RF Min.		PT Max.	OT Min.	MD Max.	OP
	(N)	(gf)	(N)	(gf)	(mm)	(mm)	(mm)	(mm)
G91 □ -100 □ 00D1	1.00	100	0.10	10	1.1	0.6	0.2	8.4±0.3
G91 □ -150 □ 00D1	1.50	150	0.35	35	1.1	0.6	0.2	8.4±0.3
G91 □ -250 □ 00D1	2.50	250	0.40	40	1.1	0.6	0.2	8.4±0.3
G91 □ -300 □ 00D1	3.00	300	0.60	60	1.1	0.6	0.2	8.4±0.3

◆短直手柄 Short Straight Lever



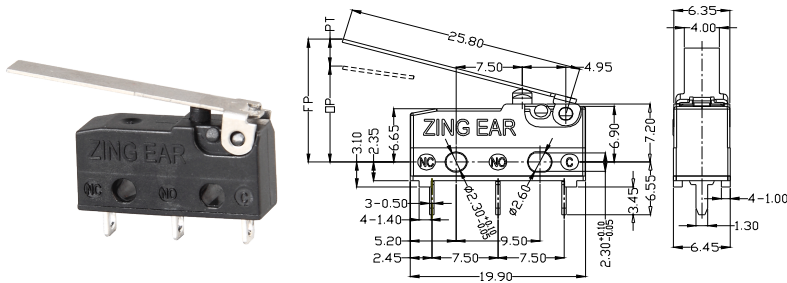
型号 Part No.	操作参数/Parameters							
	OF Max.		RF Min.		PT Max.	OT Min.	MD Max.	OP
	(N)	(gf)	(N)	(gf)	(mm)	(mm)	(mm)	(mm)
G91 □ -100 □ 01D1	0.45	45	0.03	3	4.3	1.2	0.8	10.7±1.3
G91 □ -150 □ 01D1	0.60	60	0.08	8	4.3	1.2	0.8	10.7±1.3
G91 □ -250 □ 01D1	0.85	85	0.10	10	4.3	1.2	0.8	10.7±1.3
G91 □ -300 □ 01D1	1.20	120	0.15	15	4.3	1.2	0.8	10.7±1.3

◆标准直手柄 Std. Straight Lever



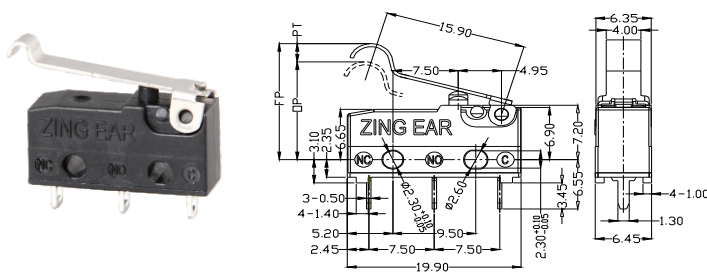
型号 Part No.	操作参数/Parameters							
	OF Max.		RF Min.		PT Max.	OT Min.	MD Max.	OP (mm)
	(N)	(gf)	(N)	(gf)	(mm)	(mm)	(mm)	
G91□ □ -100□ 02D1	0.40	40	0.02	2	4.8	1.2	1.2	11.1±1.5
G91□ □ -150□ 02D1	0.50	50	0.06	6	4.8	1.2	1.2	11.1±1.5
G91□ □ -250□ 02D1	0.75	75	0.08	8	4.8	1.2	1.2	11.1±1.5
G91□ □ -300□ 02D1	1.10	110	0.12	12	4.8	1.2	1.2	11.1±1.5

◆长直手柄 Long Straight Lever



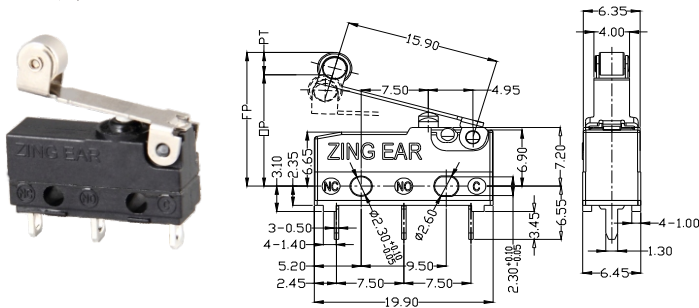
型号 Part No.	操作参数/Parameters							
	OF Max.		RF Min.		PT Max.	OT Min.	MD Max.	OP (mm)
	(N)	(gf)	(N)	(gf)	(mm)	(mm)	(mm)	
G91□ □ -100□ 03D1	0.35	35	0.01	1	6.3	1.5	1.5	12.0±1.8
G91□ □ -150□ 03D1	0.40	40	0.04	4	6.3	1.5	1.5	12.0±1.8
G91□ □ -250□ 03D1	0.65	65	0.06	6	6.3	1.5	1.5	12.0±1.8
G91□ □ -300□ 03D1	0.90	90	0.10	10	6.3	1.5	1.5	12.0±1.8

◆短模拟滚轮手柄 Short Std. Simulated Roller Lever



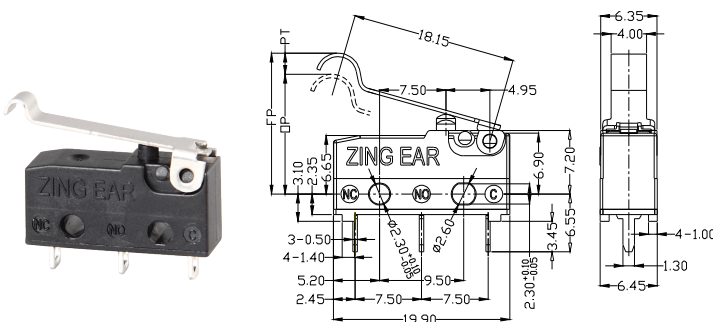
型号 Part No.	操作参数/Parameters							
	OF Max.		RF Min.		PT Max.	OT Min.	MD Max.	OP (mm)
	(N)	(gf)	(N)	(gf)	(mm)	(mm)	(mm)	
G91□ □ -100□ 05D1	0.50	50	0.03	3	4.3	1.0	0.7	16.0±1.3
G91□ □ -150□ 05D1	0.65	65	0.08	8	4.3	1.0	0.7	16.0±1.3
G91□ □ -250□ 05D1	0.95	95	0.12	12	4.3	1.0	0.7	16.0±1.3
G91□ □ -300□ 05D1	1.30	130	0.16	16	4.3	1.0	0.7	16.0±1.3

◆短滚轮手柄 Short Roller Lever



型号 Part No.	操作参数/Parameters							
	OF Max.		RF Min.		PT Max.	OT Min.	MD Max.	OP (mm)
	(N)	(gf)	(N)	(gf)	(mm)	(mm)	(mm)	
G91□ □ -100□ 06D1	0.50	50	0.03	3	4.3	1.0	0.7	15.8±1.3
G91□ □ -150□ 06D1	0.65	65	0.08	8	4.3	1.0	0.7	15.8±1.3
G91□ □ -250□ 06D1	0.95	95	0.12	12	4.3	1.0	0.7	15.8±1.3
G91□ □ -300□ 06D1	1.30	130	0.16	16	4.3	1.0	0.7	15.8±1.3

◆长模拟滚轮手柄 Long Std. Simulated Roller Lever



型号 Part No.	操作参数/Parameters							
	OF Max.		RF Min.		PT Max.	OT Min.	MD Max.	OP (mm)
	(N)	(gf)	(N)	(gf)	(mm)	(mm)	(mm)	
G91□ □ -100□ 07D1	0.45	45	0.03	3	4.8	1.3	1.0	16.4±1.5
G91□ □ -150□ 07D1	0.60	60	0.08	8	4.8	1.3	1.0	16.4±1.5
G91□ □ -250□ 07D1	0.85	85	0.11	11	4.8	1.3	1.0	16.4±1.5
G91□ □ -300□ 07D1	1.20	120	0.15	15	4.8	1.3	1.0	16.4±1.5