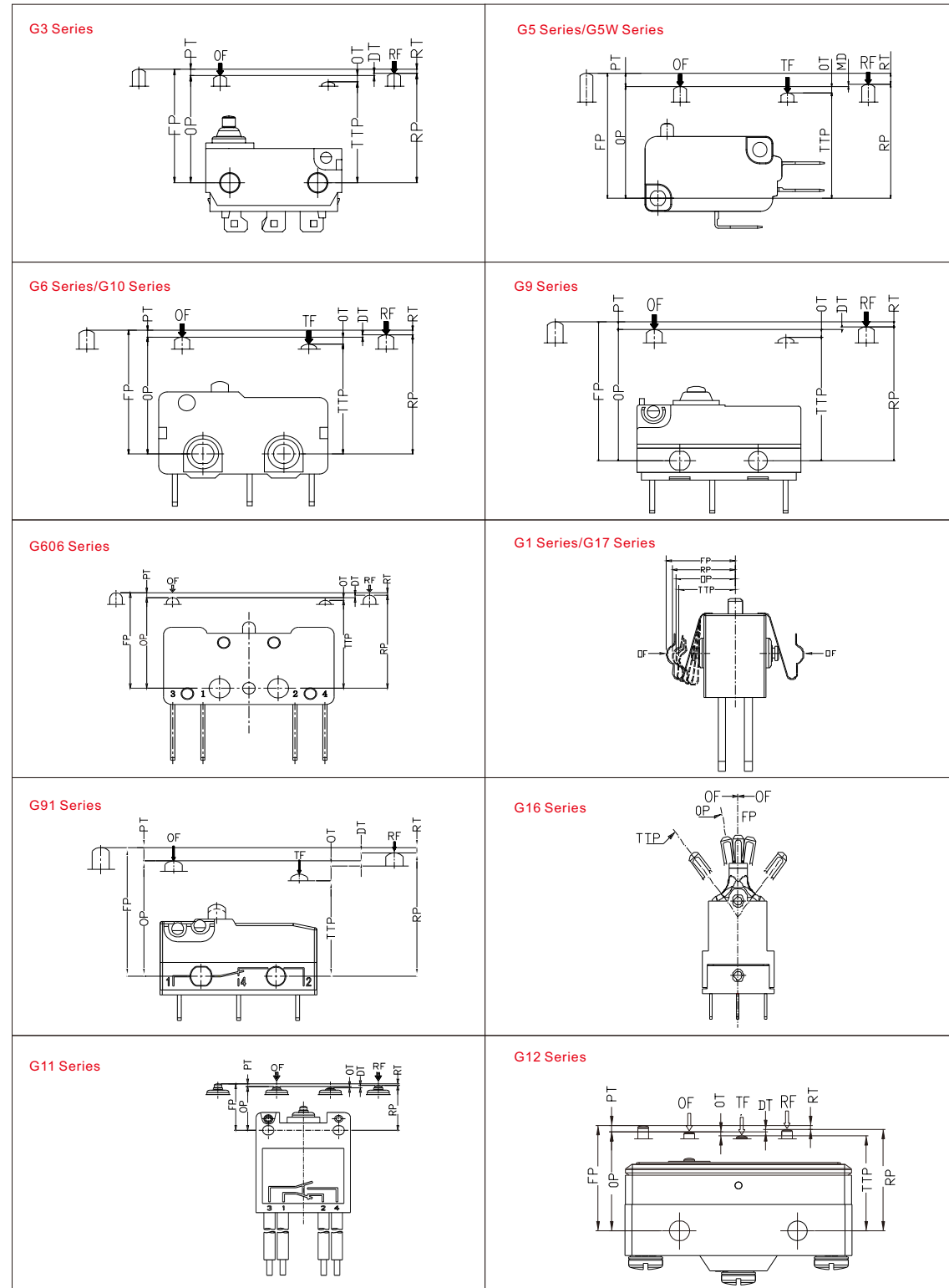


■ Operating Characteristic Diagram



Code	Name	Meanings
PT	Pre-travel	The displacement of the actuator from the free position to the operating position.
OT	Over-travel	The displacement of the actuator from the operating position to the Total Travel position.
DT (or MD)	Movement-Differential	The displacement of the actuator from the operating position to the release position or from the release position to the operating position.
RT	Release travel	The displacement of the actuator from the release position to the free position.
OF	Operating force	The maximum operating force required for the actuator to move from the free position to the operating position.
TF	Total travel force	The minimum operating force experienced by the actuator at the Total Travel location.
RF	Release force	The actuator returns to the release position from the forward operating position, which the value reduce to.
TTP	Total travel position	The position at which the actuator was stopped.
OP	Operating position	The position of the actuator at the moment when the mechanism is positively operating.
RP	Release position	The position of the actuator at the moment when the mechanism is reversely operating.
FP	Free position	The position of the actuator when it is not subjected to operating forces and when the force is not sufficient to cause displacement.

■ Third View Projection

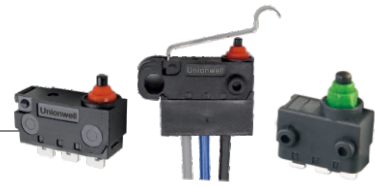
■ Lateral Actuation

Note: All the view in the catalogue use this third view projection

For G3-B type, if the operating plunger device is cam or sliding bevel, the max. bearable operating angle is 35°

## G303 Series

### Subminiature Sealed Micro Switch



#### Features

- Designed for water and dust tight (IP67)
- Small compact size
- Global safety approvals
- Long life and high reliability
- Variety of levers
- Wide range of wiring terminals
- Widely used in automotive electronics, appliance and industrial control designs

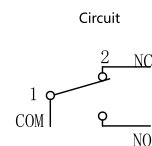
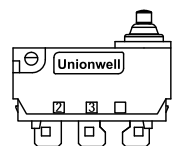
#### Application

- ◆ Car
- ◆ Air-Conditioner
- ◆ Communication
- ◆ Electric Toothbrush
- ◆ Toys
- ◆ Bicycle

#### Parameters

Rating		0.1A, 125/250VAC; 3A/12VDC; 0.1A/48VDC; $\mu$ 1E5
Operating Frequency	Electrical	0.1A, 120 cycles/min 3A, 10~30 cycles/min
	Mechanical	120 cycles/min
Contact Resistance (Initiative)		100m $\Omega$ Max. (without wire type)
Insulation Resistance (at 500VDC)		100M $\Omega$ Min.
Vibration Durability		10~55Hz, move 0.75mm (p-p)
Dielectric Strength		500VAC (50~60Hz)
Operating Temperature		-40 $^{\circ}$ C~+85 $^{\circ}$ C
Operating Humidity		85%RH Max.
Service Life	Electrical	Min. 100,000 cycles (Depend on part NO.)
	Mechanical	Min. 500,000 cycles

#### Circuit



## G3 Series Micro Switch Ordering Instruction

G3	03	R	130	S	00	A	
Switch Type	Electrical Rating	Resistor Configuration	Operating Force at Pin Plunger,Max	Terminal Style	Lever Type		Circuit
	03 0.1A 125/250VAC 48VDC:3A 12VDC $\mu$ 40T85 1E5	Without inner resistor  R With inner resistor (with wires)	130 130gf Max. Use 130# spring	E Molded lead wires downwards.  G Molded lead wires on left side(plunger side)  F Molded lead wires on right side (away from plunger side)  S Solder terminals  K Long solder terminals  N None-hole short solder terminals  P Straight PCB terminals (0.6mm width )  R Right side PCB terminals  L Left side PCB terminals  I Big solder terminals  J Left right straight PCB terminals  A Left side fork type terminals  B Right side fork type terminals  Q 2.5 type terminals Wide 2.5mm, length 7.5mm  D 2.5 type 2#terminals Wide2.5mm Length5.15mm  W None hole solder terminals  U 5#PCB NC terminal  V 6#PCB NC terminal	00 No lever Pin plunger  01 Leaf lever (for A, A1, M3 types)  02 Straight leaf lever (for A, A1, M3 types)  03 03# Straight lever (only for C case)  04 04# Lever (for A, A1, M3 types)  05 Simulated roller (for A, A1, M3 types)  08 Straight leaf lever (only A2 type)  09 Mini simulated roller lever (for A, A1, M3 types)  10 10# Lever (for A, A1 types with PHA waterproof case)  13 13# Lever (only for Type)  15 Upside down simulated roller lever (for A, A1, M3 types)  21 21# Staight lever (only for C type case)  22 22# Lever (for A, A1, M3 types)  23 23# Lever (only for C1M3)  25 25# Lever (for A, A1, M3 types)  28 28# Lever (for A, A1, M3 types)	31 Simulated roller (for A, A1, M3 types)  35 35# Lever (for A, A1, M3 types)  36 36# Lever (for A, A1, M3 types)  37 37# Lever (for A, A1 types with PHA waterproof case)  38 38# Lever (for C1, C2 types)  41 41# Lever (for A, A1, M3 types)  45 45# Lever (for A, A1, M3 types)  79 79# Lever (for A, A1, M3 types)  93 93# lever (Only for A2 type)  - Other	A SPDT  B SPST-NC  C SPST-NO

1		A		E		A		280		T001		U	
Shape and Posts		Posts Dimension		AWG Type (for wire type only)		AWG Number (for wire type only)		Wires Length		Custom Code		LOGO	
1	A type no post	19	D1 type two sides posts	Standard post 1. A, A1, A2, B types 2.60mm X 5.0mm 2. M3 type 2.95mm X 1.4mm 3. C1, D1 types 2.95mm X 1.5mm 4. C1 M3 type 3.0mm X 1.5mm		Without wire		Standard length (300mm)		General model		Unionwell	
2	A type left side posts	28	A type no post	Φ 2.2mm X 0.9mm posts. (for A, A1, types)		Without wire		280mm length		TO 01 Customization the customized code is T + serial number, such as: T001		Unionwell	
3	A type right side posts	29	A type left side posts	Φ 2.5mm X 1.5mm posts. (for A, A1, A2, B types)		A UL1007		...		T355 SPST-NC Color of wires, COM (black) NC (gray) resistance value RC: 220Ω R4: 3300Ω FP: 220Ω OP: 3520Ω		Other	
4	B type no post	30	A type right side posts	Φ 2.6mm X 2.5mm posts. (for A, A1, A2 types)		C UL1430		...		T350 SPST-NC Color of wires, COM (black) NC (gray) resistance value RC: 680Ω R4: 2700Ω FP: 680Ω OP: 3380Ω		Other	
5	B type left posts	31	A type two sides posts	Φ 2.60mm X 3.8mm posts. (for A, A1 types)		D UL1061		...		T354 SPST-NC Color of wires, COM (black) NC (gray) resistance value RC: 1500Ω R4: 1800Ω FP: 1500Ω OP: 3300Ω		Other	
6	B type right side posts	47	C1M3 type posts	Φ 2.6mm X 2.0mm posts. (for A, A1 types)		F AVSS		...		T310 SPST-NO Color of wires, COM (black) NC (gray) resistance value RC: 1620Ω R4: 5110Ω FP: 6730Ω OP: 1620Ω		Other	
7	M3 type posts	48	A2 type posts	Φ 2.95mm X 5.0mm posts. (only for C1 type)		L FLRYA		...		T310 SPST-NO Color of wires, COM (black) NC (gray) resistance value RC: 220Ω R4: 3300Ω FP: 3520Ω OP: 220Ω		Other	
8	A type two sides posts	49	A2 type posts	Φ 2.6mm X 1.4mm posts. (only for A2 type)		...		...		T564 SPST-NO Color of wires, COM (black) NC (gray) resistance value RC: 150Ω R4: 330Ω FP: 480Ω OP: 150Ω		Other	
9	B type two sides posts	50	A2 type posts	...		...		...		...		...	
12	C1 type two sides posts	51	A2 type posts	...		...		...		...		...	
13	C1 type no post	52	A2 type posts	...		...		...		...		...	
14	C1 type left posts	53	A2 type posts	...		...		...		...		...	
15	C1 type right posts	54	A2 type posts	...		...		...		...		...	
16	D1 type no post	55	A2 type posts	...		...		...		...		...	
17	D1 type left side posts	...	Other	...		...		...		...		...	
18	D1 type right side posts	...	Other	...		...		...		...		...	

Basic Mounting Dimensions and Operating Characteristics

A shape	A1 shape
A2 shape	B shape
C1 shape	C1M3 shape
D1 shape	M3 shape

Shape and Posts

A type basic shape	A1 type basic shape	A2 type basic shape	B type basic shape	M3 type basic shape

## ■ Shape and Posts

C1 type basic shape	D1 type basic shape
<p><b>C1 type</b></p>	<p><b>D1 type</b></p>
C1M3 Shape	

## ■ Switch Terminal Type (can be customized)

S Type	Q Type	K Type
D Type	P Type	J Type

P1 Type	I Type	R Type
L Type	A Type	B Type
W Type	U Type	V Type

## ■ Wires Leads Type

Wires leads to bottom	Wires leads to plunger side	Wires leads to opposite to plunger side
<p>COM:AVSS 0.3 mm<sup>2</sup> Black NO:AVSS 0.3 mm<sup>2</sup> Blue NC:AVSS 0.3 mm<sup>2</sup> Gray</p>	<p>COM:AVSS 0.3 mm<sup>2</sup> Black NO:AVSS 0.3 mm<sup>2</sup> Blue NC:AVSS 0.3 mm<sup>2</sup> Gray</p>	<p>COM:AVSS 0.3 mm<sup>2</sup> Black NO:AVSS 0.3 mm<sup>2</sup> Blue NC:AVSS 0.3 mm<sup>2</sup> Gray</p>



■ Switch Lever Type (can be customized)

Without lever	01# Lever	02# Lever
03# Lever	04# Lever	05# Lever
09# Lever	37# Lever	15# Lever
22# Lever	23# Lever	25# Lever
28# Lever	35# Lever	36# Lever

38# Lever	41# Lever	79# Lever
45# Lever	93# Lever	

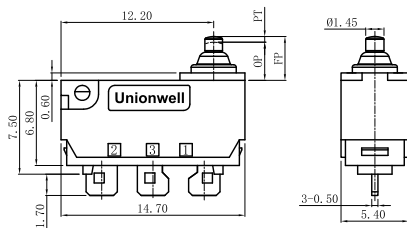
■ Posts Type (can be customized)

A shape: Ø2.60X5.00mm posts	A1 shape: Ø2.60X5.00mm posts	<p>■ Posts Identification</p> <p>Top View - Post Direction Identification</p> <p>Plunger Position</p> <p>Left Right</p>
A2 shape: Ø2.60X5.00mm posts	B shape: Ø2.60X5.00mm posts	
C1: Ø2.60X5.00mm posts	C1M3: Ø2.60X5.00mm posts	
D1: Ø2.60X5.00mm posts		

M3: Ø2.60X5.00mm posts	A shape of type A: Ø2.20X0.90mm posts	A shape of type B: Ø2.50X1.50mm posts
A shape of type C: Ø2.60X2.50mm posts	A shape of type F: Ø2.60X3.80mm posts	A shape of type H: Ø2.60X2.00mm posts

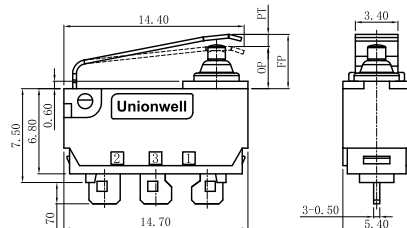
■ Dimensions and Operating Characteristics

◆ G3□□-□□□S00A1U



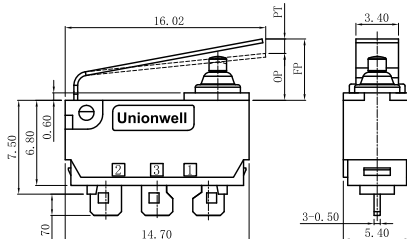
OF Max (gf)	RF Min (gf)	PT Max (mm)	OT Min (mm)	DT Max (mm)	FP Max (mm)	OP (mm)
-130	130	13	0.8	0.8	0.2	3.65 3.05±0.2

◆ G3□□-□□□S01A1U



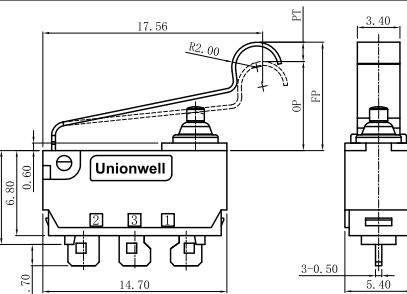
OF Max (gf)	RF Min (gf)	PT Max (mm)	OT Min (mm)	DT Max (mm)	FP Max (mm)	OP (mm)
-130	250	30	3	0.8	0.5	5.7 3.4±0.5

◆ G3□□-□□□S02A1U



OF Max (gf)	RF Min (gf)	PT Max (mm)	OT Min (mm)	DT Max (mm)	FP Max (mm)	OP (mm)
-130	250	25	3.5	1.35	0.6	6.8 3.7±0.6

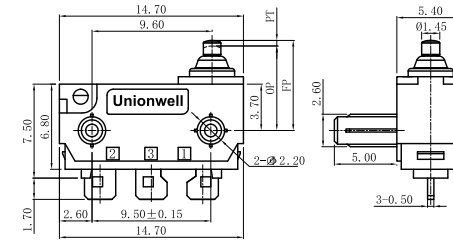
◆ G3□□-□□□S05A1U



OF Max (gf)	RF Min (gf)	PT Max (mm)	OT Min (mm)	DT Max (mm)	FP Max (mm)	OP (mm)
-130	180	20	3.8	1.5	0.7	9.8 7.0±0.7

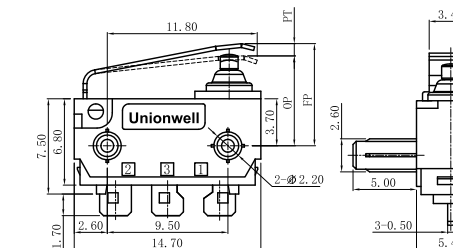
■ Dimensions and Operating Characteristics

◆ G3□□-□□□S00A3U



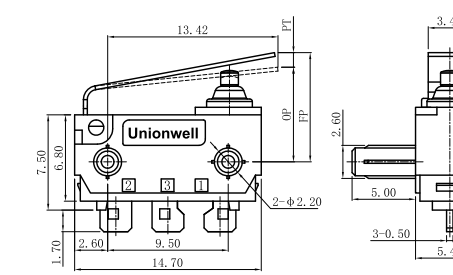
OF Max (gf)	RF Min (gf)	PT Max (mm)	OT Min (mm)	DT Max (mm)	FP Max (mm)	OP (mm)
-130	130	13	0.8	0.8	0.2	7.35 6.75±0.2

◆ G3□□-□□□S01A3U



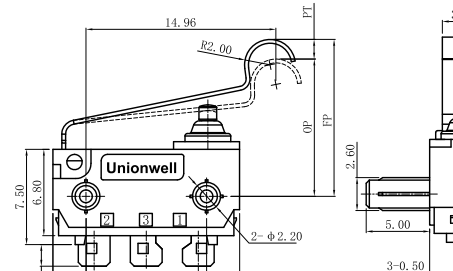
OF Max (gf)	RF Min (gf)	PT Max (mm)	OT Min (mm)	DT Max (mm)	FP Max (mm)	OP (mm)
-130	250	30	3	0.8	0.5	9.4 7.1±0.5

◆ G3□□-□□□S02A3U



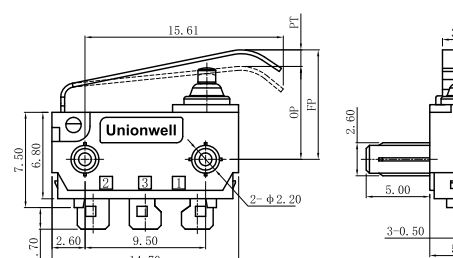
OF Max (gf)	RF Min (gf)	PT Max (mm)	OT Min (mm)	DT Max (mm)	FP Max (mm)	OP (mm)
-130	250	25	3.5	1.35	0.6	10.5 7.4±0.6

◆ G3□□-□□□S05A3U



OF Max (gf)	RF Min (gf)	PT Max (mm)	OT Min (mm)	DT Max (mm)	FP Max (mm)	OP (mm)
-130	180	20	3.8	1.5	0.7	13.5 10.7±0.7

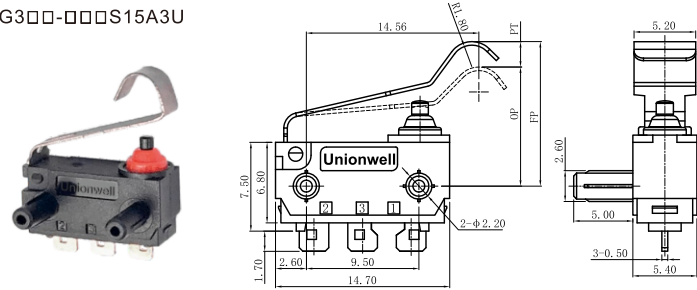
◆ G3□□-□□□S09A3U



OF Max (gf)	RF Min (gf)	PT Max (mm)	OT Min (mm)	DT Max (mm)	FP Max (mm)	OP (mm)
-130	195	30	3.5	1.3	0.6	10.8 7.3±0.6

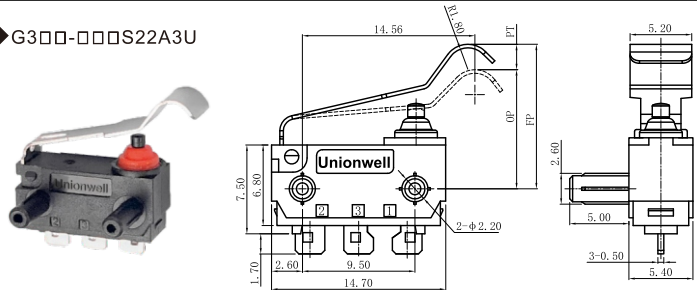
■ Dimensions and Operating Characteristics

◆ G3□□-□□□S15A3U



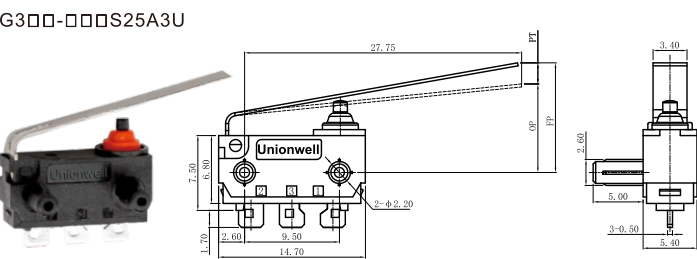
OF Max (gf)	RF Min (gf)	PT Max (mm)	OT Min (mm)	DT Max (mm)	FP Max (mm)	OP (mm)	
-130	200	20	3.8	1.5	0.7	13.8	10.0±0.7

◆ G3□□-□□□S22A3U



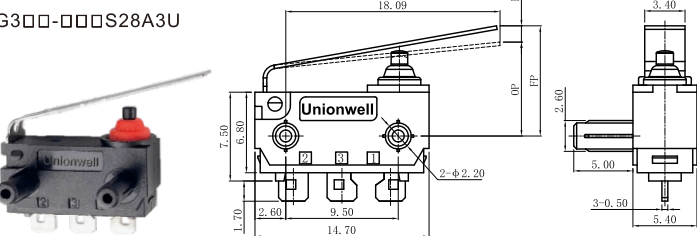
OF Max (gf)	RF Min (gf)	PT Max (mm)	OT Min (mm)	DT Max (mm)	FP Max (mm)	OP (mm)	
-130	200	20	3.8	1.5	0.7	13.8	10.0±0.7

◆ G3□□-□□□S25A3U



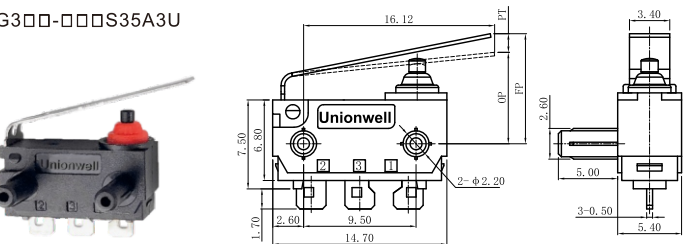
OF Max (gf)	RF Min (gf)	PT Max (mm)	OT Min (mm)	DT Max (mm)	FP Max (mm)	OP (mm)	
-130	150	25	5.5	1.35	1.5	13	7.50±1.2

◆ G3□□-□□□S28A3U



OF Max (gf)	RF Min (gf)	PT Max (mm)	OT Min (mm)	DT Max (mm)	FP Max (mm)	OP (mm)	
-130	200	25	4.5	1.5	1	11.65	7.15±1.0

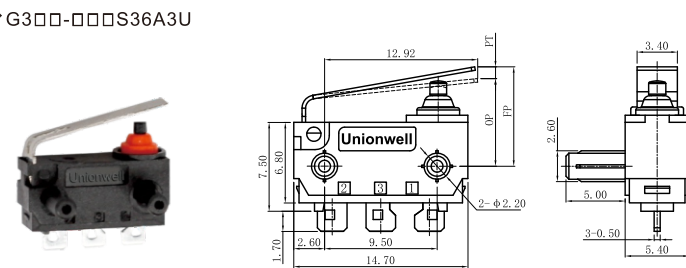
◆ G3□□-□□□S35A3U



OF Max (gf)	RF Min (gf)	PT Max (mm)	OT Min (mm)	DT Max (mm)	FP Max (mm)	OP (mm)	
-130	200	25	4.4	1.5	1	11.45	7.05±1.0

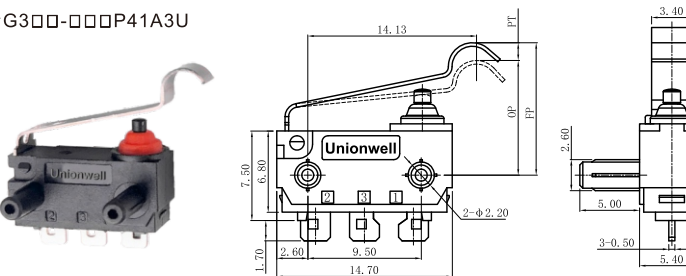
■ Dimensions and Operating Characteristics

◆ G3□□-□□□S36A3U



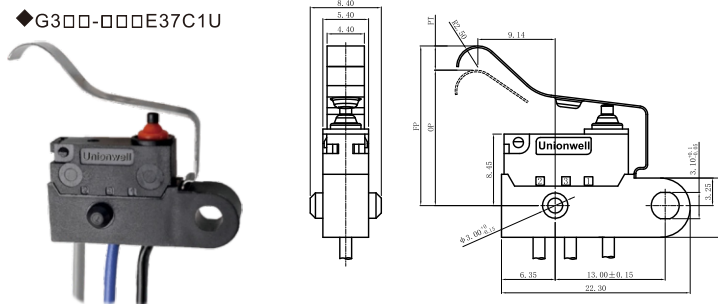
OF Max (gf)	RF Min (gf)	PT Max (mm)	OT Min (mm)	DT Max (mm)	FP Max (mm)	OP (mm)	
-130	250	25	3.4	1.3	0.6	10.6	7.2±0.6

◆ G3□□-□□□P41A3U



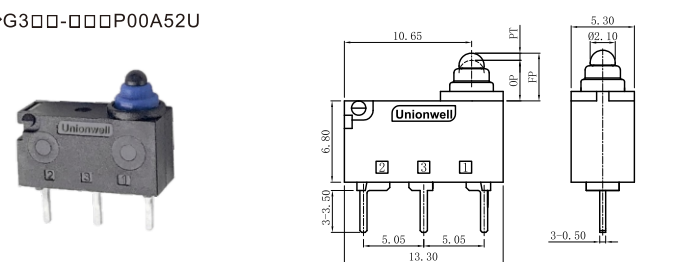
OF Max (gf)	RF Min (gf)	PT Max (mm)	OT Min (mm)	DT Max (mm)	FP Max (mm)	OP (mm)	
-130	200	50	3.5	1.2	0.6	13	9.5±0.7

◆ G3□□-□□□E37C1U



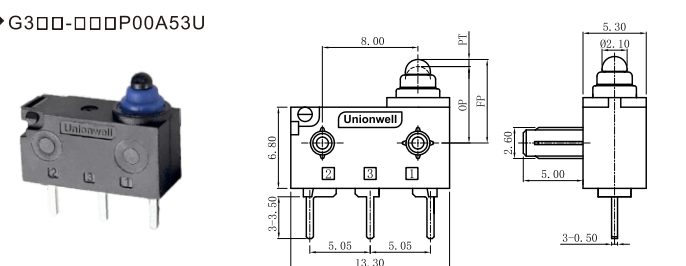
OF Max (gf)	RF Min (gf)	PT Max (mm)	OT Min (mm)	DT Max (mm)	FP Max (mm)	OP (mm)	
-130	100	25	6	1.5	2	21	15±2.0

◆ G3□□-□□□P00A52U



OF Max (gf)	RF Min (gf)	PT Max (mm)	OT Min (mm)	DT Max (mm)	FP Max (mm)	OP (mm)	
-130	130	30	1.3	0.6	0.25	4.2	3.4±0.3

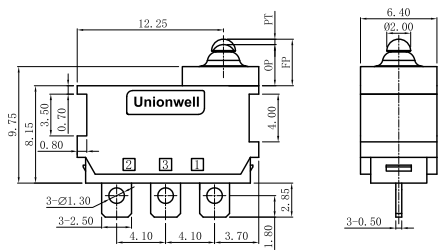
◆ G3□□-□□□P00A53U



OF Max (gf)	RF Min (gf)	PT Max (mm)	OT Min (mm)	DT Max (mm)	FP Max (mm)	OP (mm)	
-130	130	30	1.3	0.6	0.25	7.2	6.4±0.3

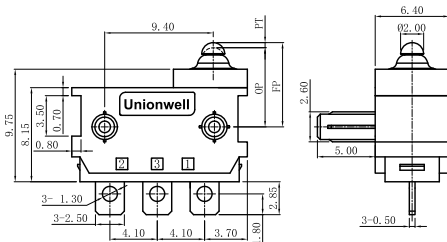
■ Dimensions and Operating Characteristics

◆ G3□□-□□□K00A4U



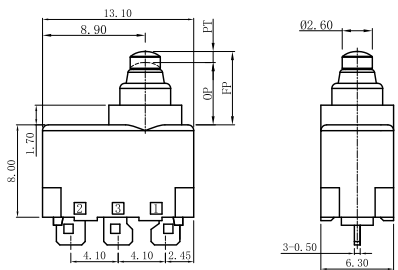
OF Max (gf)	RF Min (gf)	PT Max (mm)	OT Min (mm)	DT Max (mm)	FP Max (mm)	OP (mm)
-130	130	13	0.8	0.2	4.1	3.45±0.2

◆ G3□□-□□□K00A6U



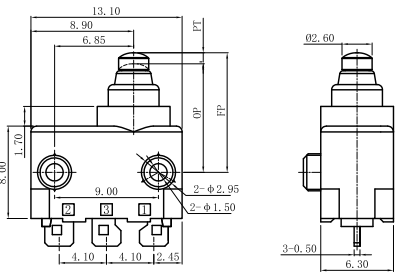
OF Max (gf)	RF Min (gf)	PT Max (mm)	OT Min (mm)	DT Max (mm)	FP Max (mm)	OP (mm)
-130	130	13	0.8	0.2	7.5	6.85±0.2

◆ G3□□-□□□S00A13U



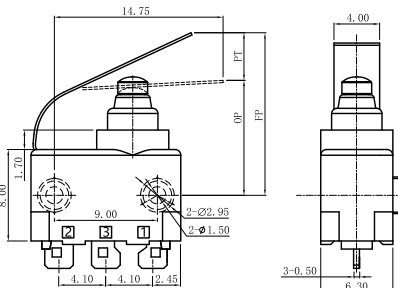
OF Max (gf)	RF Min (gf)	PT Max (mm)	OT Min (mm)	DT Max (mm)	FP Max (mm)	OP (mm)
-130	180	20	1.5	0.25	6.55	5.4±0.3

◆ G3□□-□□□S00A15U



OF Max (gf)	RF Min (gf)	PT Max (mm)	OT Min (mm)	DT Max (mm)	FP Max (mm)	OP (mm)
-130	180	20	1.5	0.25	10.55	9.4±0.3

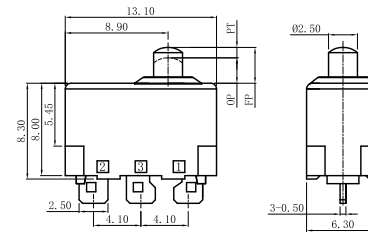
◆ G3□□-□□□S03A15U



OF Max (gf)	RF Min (gf)	PT Max (mm)	OT Min (mm)	DT Max (mm)	FP Max (mm)	OP (mm)
-130	250	50	5.5	1.1	15	10.7±1.5

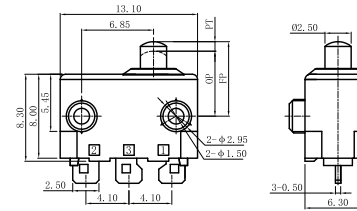
■ Dimensions and Operating Characteristics

◆ G3□□-□□□S00A16U



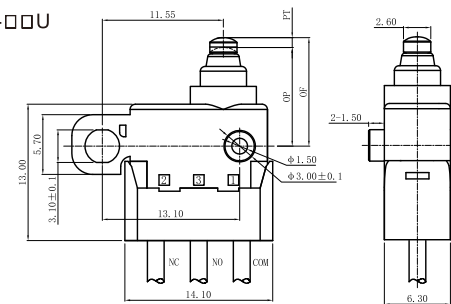
OF Max (gf)	RF Min (gf)	PT Max (mm)	OT Min (mm)	DT Max (mm)	FP Max (mm)	OP (mm)	
-130	130	8	1.5	0.5	0.25	3.3	2.2±0.3

◆ G3□□-□□□S00A18U



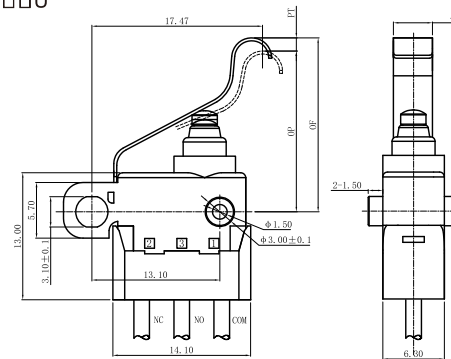
OF Max (gf)	RF Min (gf)	PT Max (mm)	OT Min (mm)	DT Max (mm)	FP Max (mm)	OP (mm)	
-130	130	8	1.5	0.5	0.25	7.3	6.2±0.3

◆ G3□□-□□□E00A47-□□□



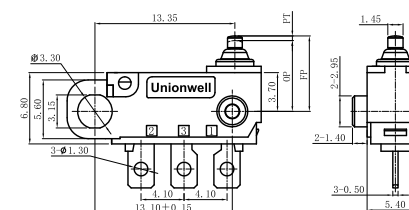
OF Max (gf)	RF Min (gf)	PT Max (mm)	OT Min (mm)	DT Max (mm)	FP Max (mm)	OP (mm)	
-130	200	20	1.5	0.5	0.25	10.55	9.4±0.3

◆ G3□□-□□□E23A47-□□□



OF Max (gf)	RF Min (gf)	PT Max (mm)	OT Min (mm)	DT Max (mm)	FP Max (mm)	OP (mm)	TTP	
-130	300	50	3.5	0.5	1.1	20	16.45±1.5	14.90

◆ G3□□-□□□K00A7U



OF Max (gf)	RF Min (gf)	PT Max (mm)	OT Min (mm)	DT Max (mm)	FP Max (mm)	OP (mm)	
-130	130	13	0.8	0.8	0.2	7.35	6.75±0.2