

# Snap-action Microswitches – Subminiature XC

## XC

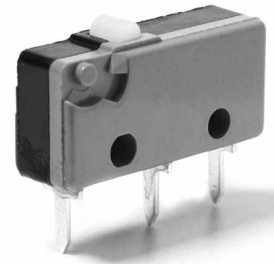
- Characteristics
- Wide range of actuating forces
  - Long mechanical and electrical life
  - Solder, PCB, faston (quick connect) terminals

Rating Up to 250 V, 10 A

Dimensions (mm) 19.9 x 9.5 x 6.4

Actuator Plunger, plain, roller, plastic, simulated roller lever

Approvals UL, cUL, CSA, ENEC



## Preferred Product Range

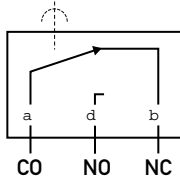
Ordering Reference	Actuating Force		Operating position		Terminal	Circuit	Actuator	Contacts	Electrical rating	UL/CSA
	(N)	(oz)	(mm)	(in)					ENEC	
XCG3Z1	1.7	6.07	8.4	0.33	Solder	CO	Plunger	Ag	6(2) A	5 A
XCG3-J1Z1	0.6	2.14	10.2	0.40	Solder	CO	Plain lever	Ag	6(2) A	5 A
XCG3-S1Z1	0.7	2.49	15.6	0.61	Solder	CO	Roller lever	Ag	6(2) A	5 A
XCG5Z1	1.7	6.07	8.4	0.33	Faston 2.8 x 0.5 mm	CO	Plunger	Ag	6(2) A	5 A
XCG5-J1Z1	0.6	2.14	10.2	0.40	Faston 2.8 x 0.5 mm	CO	Plain lever	Ag	6(2) A	5 A
XCG5-S1Z1	0.7	2.49	15.6	0.61	Faston 2.8 x 0.5 mm	CO	Roller lever	Ag	6(2) A	5 A
XCG8Z1	1.7	6.07	8.4	0.33	PCB	CO	Plunger	Ag	6(2) A	5 A
XCG8-J1Z1	0.6	2.14	10.2	0.40	PCB	CO	Plain lever	Ag	6(2) A	5 A
XCG8-S1Z1	0.7	2.49	15.6	0.61	PCB	CO	Roller lever	Ag	6(2) A	5 A
XCF3Z1	3.0	10.70	8.4	0.33	Solder	CO	Plunger	Ag	10(3) A	10.1 A
XCF3-J1Z1	1.05	3.74	10.2	0.40	Solder	CO	Plain lever	Ag	10(3) A	10.1 A
XCF3-S1Z1	1.1	3.92	15.6	0.61	Solder	CO	Roller lever	Ag	10(3) A	10.1 A

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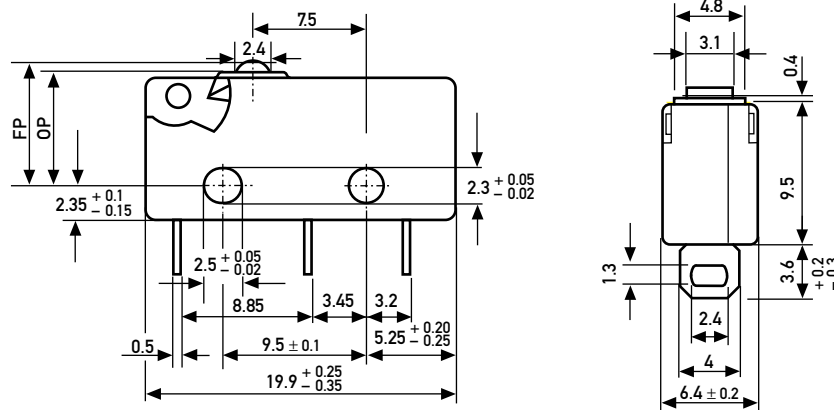
## Specifications

Housing	Phenolic-Melamine, Thermosetting
Plunger	POM for T85, PBT for T140
Mechanism	Snap-action system with stainless steel tension spring
Functions	Change-over, NO, NC
Contacts	Pure silver (Ag) or 10 µm Gold (Au), microprofile
Terminals	Solder, faston and various PCB terminals (side of housing or side of lid, as well as 1/10" o lin pitch)
Temperature range °C	-40°C to +85°C (special version up to 140°C)
Mechanical life	up to 5-10 <sup>7</sup> cycles (sinusoidal actuation)
Protection	Enclosure IP40
Mounting	Side mounting through mounting holes
Actuators	Stainless steel, PA66-GF35
Contact Carrier	CuZn or CuSn

Circuit diagram



Dimensions (mm)



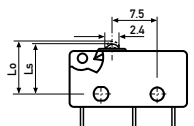
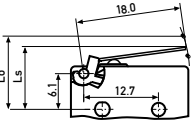
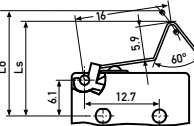
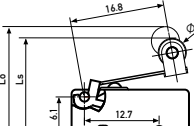
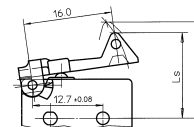
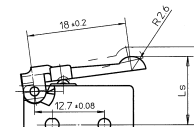
FP = Free Position  
OP = Operating Position

## Recommended Maximum Electrical Ratings

	Voltage (VAC)	Resistive load (A)	Motor load (A)	Approvals ENEC (VAC)		Approvals UL (VAC)	
XCF	250	10	3	10 (3)	250	1E4	250
XCG	250	6	2	6 (2)	250	5E4	250
XCK	250	5	3	5 (3)	250	1E4	250
XCC	250	3	1	3 (1)	250	5E4	250
XCH	250	1.5	0.3	1.5 (0.3)	250	5E4	30

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## Operating Characteristics

Actuator	Reference	Actuating Force		Release Force		Free Position		Operating Position		Movement Differential		Total travelled position	
		Maximum (N)	Maximum (oz)	Minimum (N)	Minimum (oz)	Maximum (mm)	Maximum (in)	(mm)	(in)	Maximum (mm)	(in)	Maximum (mm)	(in)
Plunger (mm) 	XCF..	3	10.70	0.5	1.78	8.8	0.34	8.4	0.33	0.1	0.003	7.7	0.30
	XCG..	1.7	6.07	0.3	1.07	8.8	0.34	8.4	0.33			7.7	0.30
	XCK..	1.2	4.28	0.2	0.71	8.8	0.34	8.4	0.33	+0.1	+0.003	7.7	0.30
	XCC..	0.6	2.14	0.1	3.57	8.8	0.34	8.4	0.33	-0.3	-0.011	7.7	0.30
	XCH..	0.35	1.24	0.07	0.24	8.8	0.34	8.4	0.33			7.7	0.30
-J1 Lever (mm) 	XCF..	1.05	3.74	0.16	0.57	12.2	0.48	10.2 ± 1.0	0.401 ± 0.039	0.6	0.023	8.4	0.33
	XCG..	0.6	2.14	0.08	0.28	12.2	0.48	10.2 ± 0.9	0.401 ± 0.035	0.5	0.019	8.5	0.34
	XCK..	0.42	1.49	0.056	0.19	12.2	0.48	10.3 ± 0.9	0.405 ± 0.035	0.5	0.019	8.7	0.34
	XCC..	0.22	0.78	0.025	0.08	12.2	0.48	10.3 ± 0.9	0.404 ± 0.035	0.4	0.015	8.7	0.34
	XCH..	0.13	0.46	0.02	0.07	12.2	0.48	10.4 ± 0.9	0.409 ± 0.035	0.4	0.015	8.8	0.35
Width of lever 4.0 mm/0.16 in													
-L1 Lever (mm) 	XCF..	1.1	3.92	0.17	0.6	17.6	0.69	15.6 ± 1.1	0.614 ± 0.043	0.6	0.023	14	0.56
	XCG..	0.7	2.49	0.09	0.32	17.6	0.69	15.6 ± 1.0	0.614 ± 0.039	0.5	0.019	14.1	0.56
	XCK..	0.43	1.53	0.058	0.2	17.6	0.69	15.7 ± 1.0	0.618 ± 0.039	0.4	0.015	14.3	0.56
	XCC..	0.23	0.82	0.026	0.09	17.6	0.69	15.7 ± 1.0	0.618 ± 0.039	0.4	0.015	14.3	0.56
	XCH..	0.14	0.49	0.021	0.07	17.6	0.69	15.8 ± 1.0	0.622 ± 0.039	0.4	0.015	14.4	0.57
Width of lever 4.0 mm/0.16 in													
-S1 Lever (mm) 	XCF..	1.1	3.92	0.17	0.6	17.6	0.69	15.6 ± 1.2	0.614 ± 0.047	0.6	0.023	14.1	0.56
	XCG..	0.7	2.49	0.09	0.32	17.6	0.69	15.6 ± 1.1	0.614 ± 0.043	0.5	0.019	14.2	0.56
	XCK..	0.43	1.53	0.058	0.2	17.6	0.69	15.7 ± 1.1	0.618 ± 0.043	0.4	0.015	14.4	0.57
	XCC..	0.23	0.82	0.026	0.09	17.6	0.69	15.7 ± 1.1	0.618 ± 0.043	0.4	0.015	14.4	0.57
	XCH..	0.14	0.49	0.021	0.07	17.6	0.69	15.8 ± 1.1	0.622 ± 0.043	0.4	0.015	14.5	0.57
Width of roller 4.0 mm/0.16 in. for high temperature use -T1 lever													
-P5 Lever (mm) 	XCF..	1.3	4.62	0.17	0.6	17.6	0.69	15.6 ± 1.1	0.614 ± 0.043	0.6	0.023	14	0.55
	XCG..	0.75	2.67	0.09	0.32	17.6	0.69	15.6 ± 1.0	0.614 ± 0.039	0.5	0.019	14.1	0.56
	XCK..	0.6	2.13	0.058	0.2	17.6	0.69	15.7 ± 1.0	0.618 ± 0.039	0.4	0.015	14.3	0.56
	XCC..	0.31	1.10	0.026	0.09	17.6	0.69	15.7 ± 1.1	0.618 ± 0.043	0.4	0.015	14.3	0.56
	XCH..	0.22	0.78	0.021	0.07	17.6	0.69	15.8 ± 1.0	0.622 ± 0.039	0.4	0.015	14.4	0.57
-P6 Lever (mm) 	XCF..	1.05	3.74	0.16	0.57	14.3	0.56	12.5 ± 1.1	0.49 ± 0.043	0.6	0.023	10.6	0.42
	XCG..	0.6	2.13	0.08	0.28	14.3	0.56	12.5 ± 1.0	0.49 ± 0.039	0.5	0.019	10.7	0.42
	XCK..	0.42	1.49	0.056	0.21	14.3	0.56	12.6 ± 1.0	0.5 ± 0.039	0.5	0.015	10.8	0.43
	XCC..	0.22	0.78	0.025	0.11	14.3	0.56	12.6 ± 1.0	0.5 ± 0.039	0.4	0.015	10.8	0.43
	XCH..	0.13	0.46	0.02	0.07	14.3	0.56	12.7 ± 1.0	0.5 ± 0.039	0.4	0.015	10.9	0.43

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## Ordering Reference – How to Build a Part Number

Actuating Characteristic	XCF	3 N	6.07 oz
	XCG	1.7 N	10.70 oz
	XCK	1.2 N	4.28 oz
	XCC	0.6 N	2.14 oz
	XCH	0.35 N	1.24 oz

Circuits	No digit	Change-over
	4	Normally closed (NC 2)
	5	Normally open (NO 4)

Terminals	3	Solder
	4	Faston 2.8 x 0.5 mm DIN
	5	Faston 2.8 x 0.5 mm IEC/AMP
	8	PCB (straight)
	9	PCB (1/10" pitch)
	10	Side mounting PCB, Base side
	11	Side mounting PCB, cover side

Other terminals on special request.

Version	No digit, Housing material MP, Europe up to 85°C, UL up to 90°C
	V (High temperature 125°C), Housing material MP / Plunger PBT, Europe up to 125°C, UL up to 130°C
	W (High temperature 140°C), Housing material Polyester PBT, Europe up to 140°C, UL up to 150°C

Contacts	No digit	Ag (silver)
	-81	μ profile Au 10 μm

Actuators	No digit	Plunger
	-J1	Plain lever 18.0 mm (0.71 in)
	-J2	Plain lever 25.0 mm (0.98 in)
	-J5	Plain lever 40.0 mm (1.57 in)
	-S1	Roller lever 16.8 mm (0.66 in)
	-L1	Cam follower 16.0 mm (0.63 in)
	-P5	Plastic lever 16.0 mm (0.63 in)
	-P6	Plastic lever 18.0 mm (0.71 in)

Other actuators on special request.

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