

# XC

## Snap-action Microswitches

Subminiature

### XC

Characteristics ■ wide range of forces and variants  
 ■ long mechanical and electrical life  
 ■ solder, PCB and faston terminals

Rating 250 VAC, 10 A max.

Dimensions (mm) 19.9 × 9.5 × 6.4

Actuator ■ Plunger  
 ■ mushroom plunger  
 ■ plain levers  
 ■ simulated roller lever/cam follower  
 ■ roller levers

Approvals ENEC, UL, cUL, CSA



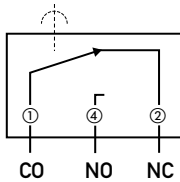
### Preferred Range

Ordering Reference	Actuating Force (N)	Actuating Force (ozf)	Operating pos. (mm)	Operating pos. (in)	Terminal	Circuit	Actuator	Contacts	Electrical rating ENEC	UL/CSA
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 × 0.5 mm	CO	Plunger	Ag	6(2) A	5 A
XCG5-J1Z1	0.6	2.14	10.2	0.40	Faston 2.8 × 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 × 0.5 mm	CO	Roller lever	Ag	6(2) A	5 A
XCG8-81Z1	1.7	6.07	8.4	0.33	PCB	CO	Plunger	Au	none	0.1 A / 125 VAC
XCG8-81-J1Z1	0.6	2.14	10.2	0.40	PCB	CO	Plain lever	Au	none	0.1 A / 125 VAC
XCG8-81-S1Z1	0.7	2.49	15.6	0.61	PCB	CO	Roller lever	Au	none	0.1 A / 125 VAC
XCF3Z1	3	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
XCG3-U1Z1	1.7	6.07	9.9	0.39	Solder	CO	Mushroom plunger	Ag	6(2) A	5 A
XCG4-U1Z1	1.7	6.07	9.9	0.39	Faston 2.8 × 0.5 mm	CO	Mushroom plunger	Ag	6(2) A	5 A
XCG8-U1Z1	1.7	6.07	9.9	0.39	PCB	CO	Mushroom plunger	Ag	6(2) A	5 A

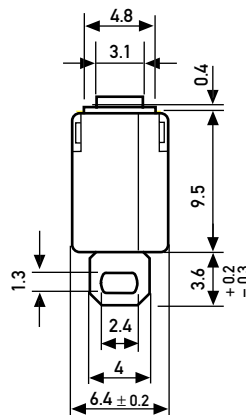
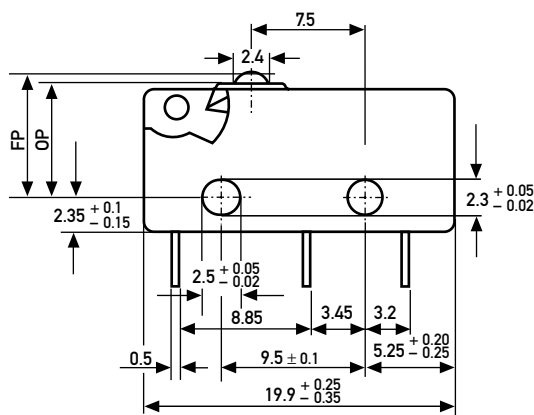
## Specifications

Housing	Melamine-Formaldehyd, Thermosetting
Plunger	POM for T85, PBT for T125, PPS for T150
Mechanism	Snap-action system with stainless steel tension spring
Functions	Change-over, NO, NC
Contacts	Fine 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	Between -40°C and +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



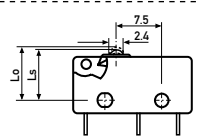
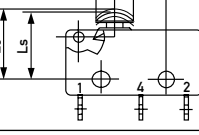
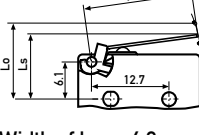
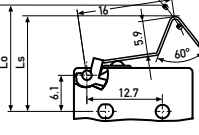
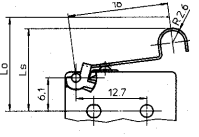
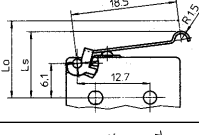
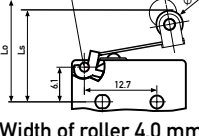
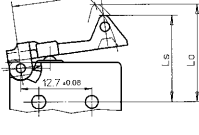
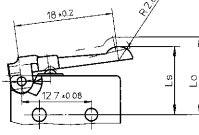
FP = Free Position  
OP = Operating Position

## Recommended maximum electrical ratings

	Voltage (VAC)	Resistive load (A)	Motor load (A)	Approvals ENEC (A)		Approvals UL (A)		Motor load	
				(A)	(VAC)	(A)	(VAC)		
XCF	250	10	3	10 (3)	1E4	250	10.1	125/250	¼HP
XCG	250	6	2	6 (2)	5E4	250	5	250	-
XCK	250	5	3	5 (3)	1E4	250	5	250	-
XCC	250	3	1	3 (1)	5E4	250	2	250	-
XCH	250	1.5	0.3	1.5 (0.3)	5E4	250	1	250	-

Breaking capacities in the tables refer to Ag contacts.

Operating Characteristics

Actuator	Reference	Actuating Force		Release Force		Free Position		Operating Position		Movement Differential		Total travelled position		
		Maximum (N)	(ozf)	Minimum (N)	(ozf)	Maximum (mm)	(in)	Maximum (mm)	(in)	Maximum (mm)	(in)	Maximum (mm)	(in)	
	XCF..	3	10.70	0.5	1.78	8.8	0.34	8.4	$\left. \begin{matrix} 0.33 \\ 0.33 \\ 0.33 \\ 0.33 \end{matrix} \right\} \begin{matrix} +0.1 \\ -0.3 \end{matrix}$	$\left. \begin{matrix} 0.33 \\ 0.33 \\ 0.33 \\ 0.33 \end{matrix} \right\} \begin{matrix} +0.003 \\ -0.011 \end{matrix}$	0.1	0.003	7.7	0.303
	XCG..	1.7	6.07	0.3	1.07	8.8	0.34	8.4						
	XCK..	1.2	4.28	0.2	0.71	8.8	0.34	8.4						
	XCC..	0.6	2.14	0.1	0.36	8.8	0.34	8.4						
	XCH..	0.35	1.24	0.07	0.24	8.8	0.34	8.4						
	XCF..-U1	3	10.70	0.5	1.78	10.3	0.41	9.9	$\left. \begin{matrix} 0.39 \\ 0.39 \\ 0.39 \\ 0.39 \end{matrix} \right\} \begin{matrix} +0.1 \\ -0.3 \end{matrix}$	$\left. \begin{matrix} 0.39 \\ 0.39 \\ 0.39 \\ 0.39 \end{matrix} \right\} \begin{matrix} +0.003 \\ -0.011 \end{matrix}$	0.1	0.003	9.2	0.36
	XCG..-U1	1.7	6.07	0.3	1.07	10.3	0.41	9.9						
	XCK..-U1	1.2	4.28	0.2	0.71	10.3	0.41	9.9						
	XCC..-U1	0.6	2.14	0.1	0.36	10.3	0.41	9.9						
	XCH..-U1	0.35	1.24	0.07	0.24	10.3	0.41	9.9						
	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						
	XCK..	0.42	1.49	0.056	0.19	12.2	0.48	10.3 ± 0.9						
	XCC..	0.22	0.78	0.025	0.08	12.2	0.48	10.3 ± 0.9						
	XCH..	0.13	0.46	0.02	0.07	12.2	0.48	10.4 ± 0.9						
Width of lever 4.0 mm/0.16 in														
	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	0.551	
	XCG..	0.7	2.49	0.09	0.32	17.6	0.69	15.6 ± 1.0						
	XCK..	0.43	1.53	0.058	0.2	17.6	0.69	15.7 ± 1.0						
	XCC..	0.23	0.82	0.026	0.09	17.6	0.69	15.7 ± 1.0						
	XCH..	0.14	0.49	0.021	0.07	17.6	0.69	15.8 ± 1.0						
Width of lever 4.0 mm/0.16 in														
	XCF..	1.05		0.16		17.1		15.1 ± 1.1	0.6	0.5	0.023	13.3		
	XCG..	0.6		0.08		17.1		15.1 ± 1.0						
	XCK..	0.42		0.056		17.1		15.2 ± 1.0						
	XCC..	0.22		0.025		17.1		15.2 ± 1.0						
	XCH..	0.13		0.02		17.1		15.3 ± 1.0						
	XCF..	1.05		0.16		13.7		11.7 ± 1.1	0.6	0.5	0.023	9.9		
	XCG..	0.6		0.08		13.7		11.7 ± 1.0						
	XCK..	0.42		0.056		13.7		11.8 ± 1.0						
	XCC..	0.22		0.025		13.7		11.8 ± 1.0						
	XCH..	0.13		0.02		13.7		11.9 ± 1.0						
	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	0.555	
	XCG..	0.7	2.49	0.09	0.32	17.6	0.69	15.6 ± 1.1						
	XCK..	0.43	1.53	0.058	0.2	17.6	0.69	15.7 ± 1.1						
	XCC..	0.23	0.82	0.026	0.09	17.6	0.69	15.7 ± 1.1						
	XCH..	0.14	0.49	0.021	0.07	17.6	0.69	15.8 ± 1.1						
Width of roller 4.0 mm/0.16 in. for high temperature use -T1 lever														
	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	0.551	
	XCG..	0.75	2.67	0.09	0.32	17.6	0.69	15.6 ± 1.0						
	XCK..	0.6	2.13	0.058	0.2	17.6	0.69	15.7 ± 1.0						
	XCC..	0.31	1.10	0.026	0.09	17.6	0.69	15.7 ± 1.1						
	XCH..	0.22	0.78	0.021	0.07	17.6	0.69	15.8 ± 1.0						
	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	0.417	
	XCG..	0.6	2.13	0.08	0.28	14.3	0.56	12.5 ± 1.0						
	XCK..	0.42	1.49	0.056	0.21	14.3	0.56	12.6 ± 1.0						
	XCC..	0.22	0.78	0.025	0.11	14.3	0.56	12.6 ± 1.0						
	XCH..	0.13	0.46	0.02	0.07	14.3	0.56	12.7 ± 1.0						

Type coding key for standard products

Basic type	XCF	3 N	10,7 ozf	Example: XCF	4	3	V	-81	-J1	Z1
	XCG	1,7 N	6,07 ozf							
	XCK	1,2 N	4,28 ozf							
	XCC	0,6 N	2,14 ozf							
	XCH	0,35 N	1,24 ozf							
Circuits	No symbol, change-over									
	4	Normally closed (NC)								
	5	Normally open (NO)								
Terminals	3	Solder								
	4	plug 2.8 × 0.5 mm DIN								
	5	plug 2.8 × 0.5 mm AMP								
	8	PCB, L = 4.5 mm								
	9	PCB, 1/10" pitch, L = 4.5 mm								
	10	PCB, formed to base								
	11	PCB, formed to lid								
	12	PCB, formed to base, 1/10" pitch								
	13	PCB, formed to lid, 1/10" pitch								
	14	PCB, L = 3.5 mm								
	15	PCB, 1/10" pitch, L = 3.5 mm								
Version	No symbol, Housing material MF, Europe up to 85°C, UL up to 90°C									
	V	(High temperature 125°C), Housing material MF / Plunger PBT, Europe up to 125°C, UL up to 130°C								
	W	(High temperature 140°C), Housing material MF / Plunger PPS, Europe up to 140°C, UL up to 150°C								
Contacts	No symbol, Ag (Ag)									
	-81	μ profile Au 10 μm								
Actuators	No symbol, 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 16,0 mm (0.63 in)								
	-L1	Cam follower 16,0 mm (0.63 in)								
	-L6	Cam follower 18,0 mm (0.71 in)								
	-L9	Cam follower 18,5 mm (0.73 in)								
	-P5	Plastic lever 16,0 mm (0.63 in)								
	-P6	Plastic lever 18,0 mm (0.71 in)								
	-U1	Mushroom plunger								
	Other actuators on special request.									
Approvals	No symbol, ENEC (except -81 contacts)									
	Z1	UL, CSA								