

# Snap-action Microswitches – Miniature XG

## XG

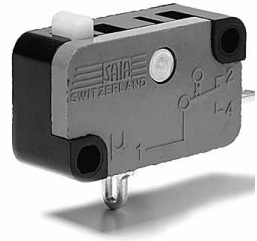
- Characteristics
- Wide number of force variants
  - High mechanical and electrical life
  - Solder terminals
  - Quick connect
  - PCB terminals
  - High temperature versions
  - Wide range of levers

Rating 250 VAC, 26 A

Dimensions (mm) 27.8 x 15.9 x 10.3

Actuator Plunger, plain levers, roller levers, simulated (cam follower) roller lever

Approvals UL, cUL, CSA, ENEC



## Preferred Product Range

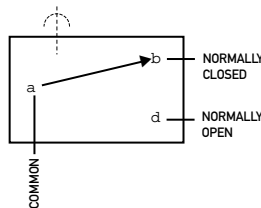
Ordering Reference	Actuating Force		Operating position		Terminal	Circuit	Actuator	Contacts	Electrical rating	
	(N)	(oz)	(mm)	(in)					ENEC	UL
XGG2-88Z1	3.20	11.43	14.7	0.57	Faston	CO	Plunger	Ag / AgNi10	16(6) A	15 A
XGG2-88-J23Z1	1.40	5.03	14.9	0.59	Faston	CO	Plain lever	Ag / AgNi10	16(6) A	15 A
XGG2-88-J26Z1	0.91	3.27	14.5	0.57	Faston	CO	Plain lever	Ag / AgNi10	16(6) A	15 A
XGG2-88-J27Z1	0.65	2.34	13.7	0.54	Faston	CO	Plain lever	Ag / AgNi10	16(6) A	15 A
XGG2-88-S20Z1	3.20	11.43	20.2	0.79	Faston	CO	Roller lever	Ag / AgNi10	16(6) A	15 A
XGG2-88-S21Z1	1.55	5.57	20.1	0.79	Faston	CO	Roller lever	Ag / AgNi10	16(6) A	15 A
XGG3-88Z1	3.20	11.43	14.7	0.57	Solder	CO	Plunger	Ag / AgNi10	16(6) A	15 A
XGG6-88Z1	3.20	11.43	14.7	0.57	Faston	CO	Plunger	Ag / AgNi10	16(6) A	15 A
XGC2-88Z1	0.80	2.86	14.7	0.57	Faston	CO	Plunger	Ag / AgNi10	12(6) A	10 A
XGC2-88-J23Z1	0.35	1.26	15.0	0.59	Faston	CO	Plain lever	Ag / AgNi10	12(6) A	10 A
XGC2-88-S20Z1	0.80	2.86	20.2	0.79	Faston	CO	Roller lever	Ag / AgNi10	12(6) A	10 A
XGC6-88Z1	0.80	2.86	14.7	0.57	Faston	CO	Plunger	Ag / AgNi10	12(6) A	10 A
XGK2-88Z1	1.50	5.36	14.7	0.57	Faston	CO	Plunger	Ag / AgNi10	12(6) A	12 A
XGK2-88-J26Z1	0.43	1.55	14.7	0.57	Faston	CO	Plain lever	Ag / AgNi10	12(6) A	12 A
XGK2-88-S21Z1	0.71	2.55	20.2	0.80	Faston	CO	Roller lever	Ag / AgNi10	12(6) A	12 A
XGK3-88Z1	1.50	5.36	14.7	0.57	Solder	CO	Plunger	Ag / AgNi10	12(6) A	12 A
XGK6-88Z1	1.50	5.36	14.7	0.57	Faston	CO	Plunger	Ag / AgNi10	12(6) A	12 A
XG02-88Z1	1.20	4.29	14.5	0.57	Faston	CO	Plunger	Ag / AgNi10	16(6) A	15 A
XG02-88-J27Z1	0.25	0.90	13.6	0.54	Faston	CO	Plain lever	Ag / AgNi10	16(6) A	15 A
XG02-88-S20Z1	1.20	4.29	20.1	0.79	Faston	CO	Roller lever	Ag / AgNi10	16(6) A	15 A
XG06-88Z1	1.20	4.29	14.5	0.57	Faston	CO	Plunger	Ag / AgNi10	16(6) A	15 A

# Snap-action Microswitches – Miniature XG

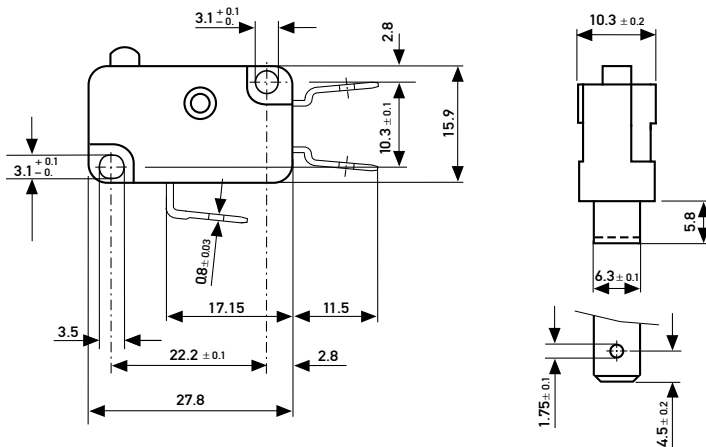
## Specifications

Housing	Phenolic-Melamine, thermosetting
Plunger	POM for T85, PBT for T150
Mechanism	Heat-treated spring made from beryllium bronze, 4 parallel current path, high contact pressure
Functions	Change-over, normally-closed (except XGG and XGK) or normally-open
Contacts	Fine silver (Ag), silver nickel (AgNi10), gold-plated 4 μm (Au), silver cadmium oxide (AgCdO)
Terminals	Solder faston, screw, PCB and side mounting PCB terminals. RAST 5 terminals, 5.0 mm pitch
Temperature range °C	-40° C to +150° C
Mechanical life	2.5 · 10 <sup>5</sup> cycles minimum, 50 · 10 <sup>6</sup> cycles maximum (Actuation: sinusoidal and maximum up to 80% of the overtravel)
Protection	Enclosure IP40
Mounting	Side mounting via mounting holes
Actuators	Stainless steel

Circuit diagram



Dimensions (mm)



## Recommended Maximum Electrical Ratings

	Voltage (VAC)	Approvals ENEC	UL	(VAC)	Voltage (VAC)	Resistive load (A)	Motor load (A)	UL
XGG...-88	250	16 (6) 5E4	15 A	125/250 VAC	XGT...-86	250	10	25 A 2 HP
XGA...-88	250	16 (6) 5E4	15 A	125/250 VAC	XGD...-86	250	6	21 A 2 HP
XGM...-88	250	16 (6) 5E4	15 A	125/250 VAC	XGA...-86	250	8	15 A 1/2 HP
XGO...-88	250	16 (6) 5E4	15 A	125/250 VAC	XGM...-86	250	8	15 A 1/2 HP
XGB...-88	250	12 (6) 5E4	10 A	125/250 VAC	XGO...-86	250	8	15 A 1/2 HP
XGC...-88	250	12 (6) 5E4	10 A	125/250 VAC	XGA...-86	400	6	
XGH...-88	250	12 (6) 5E4	10 A	125/250 VAC	XGG...-86	400	6	
XGK...-88	250	12 (6) 5E4	10 A	125/250 VAC	XGM...-86	400	6	
XG...-88	400	3 2			XGO...-86	400	6	
					XGT...-86	400	10	

# Snap-action Microswitches – Miniature XG

## Operating Characteristics

Actuator	Reference	Actuating Force		Release Force		Free Position		Operating Position		Movement Differential		Total travelled position	
		Maximum (N)	(oz)	Minimum (N)	(oz)	Maximum (mm)	(in)	(mm)	(in)	Maximum (mm)	(in)	(mm)	(in)
<p>Plunger (mm)</p>	XGG..	3.2	11.43	0.4	1.43	15.75	0.62	14.7	0.57	0.35	0.013	13.2	0.519
	XGA..	3.2	11.43	0.6	2.14	15.75	0.62	14.7	0.57	0.15	0.006	13.2	0.519
	XGM..	2	7.14	0.5	1.79	15.6	0.61	14.5	0.57	0.35	0.013	13.7	0.539
	XGO..	1.2	4.29	0.1	0.36	15.6	0.61	14.5	0.57	0.35	0.013	13.7	0.539
	XGK..	1.5	5.36	0.2	0.71	15.75	0.62	14.7	0.57	0.35	0.013	13.2	0.519
	XGB..	1.5	5.36	0.3	1.07	15.75	0.62	14.7	0.57	0.15	0.006	13.2	0.519
	XGC..	0.8	2.86	0.1	0.36	15.75	0.62	14.7	0.57	0.15	0.006	13.2	0.519
	XGH..	0.45	1.61	0.05	0.18	15.6	0.61	14.5	0.57	0.35	0.013	13.7	0.539
	XGD..	1.7	6.07	0.15	0.54	15.75	0.62	14.7	0.57	0.15	0.006	13.2	0.519
<p>-J20 Lever (mm)</p> <p>Width of lever 7 mm/0.28 in</p>	XGG..	3.2	11.43	0.36	1.29	16.5	0.64	15.1 ± 0.5	0.59 ± 0.019	0.4	0.015	14	0.551
	XGA..	3.2	11.43	0.54	1.93	16.5	0.64	15.1 ± 0.5	0.59 ± 0.019	0.2	0.007	14	0.551
	XGM..	2	7.14	0.45	1.61	16.5	0.64	15 ± 0.5	0.59 ± 0.019	0.4	0.015	14.4	0.566
	XGO..	1.2	4.29	0.09	0.34	16.5	0.64	15 ± 0.5	0.59 ± 0.019	0.4	0.015	14.4	0.566
	XGK..	1.5	5.36	0.18	0.64	16.5	0.64	15.1 ± 0.5	0.59 ± 0.019	0.4	0.015	14	0.551
	XGB..	1.5	5.36	0.27	0.96	16.5	0.64	15.1 ± 0.5	0.59 ± 0.019	0.2	0.007	14	0.551
	XGC..	0.8	2.86	0.09	0.32	16.5	0.64	15.1 ± 0.5	0.59 ± 0.019	0.2	0.007	14	0.551
	XGH..	0.45	1.61	0.04	0.14	16.5	0.64	15 ± 0.5	0.59 ± 0.019	0.4	0.015	14.4	0.566
	<p>-M20 Lever (mm)</p> <p>Width of lever 7 mm/0.28 in</p>	XGG..	2.6	9.29	0.32	1.14	19.2	0.75	17.5 ± 0.7	0.68 ± 0.027	0.45	0.017	16.4
XGA..		2.6	9.29	0.48	1.71	19.2	0.75	17.5 ± 0.7	0.68 ± 0.027	0.2	0.007	16.4	0.645
XGM..		1.65	5.89	0.4	1.43	19.2	0.75	17.3 ± 0.7	0.68 ± 0.027	0.45	0.017	16.9	0.665
XGO..		1	3.57	0.08	0.29	19.2	0.75	17.3 ± 0.7	0.68 ± 0.027	0.45	0.017	16.9	0.665
XGK..		1.25	4.46	0.16	0.57	19.2	0.75	17.5 ± 0.7	0.68 ± 0.027	0.45	0.017	16.4	0.645
XGB..		1.25	4.46	0.24	0.86	19.2	0.75	17.5 ± 0.7	0.68 ± 0.027	0.2	0.007	16.4	0.645
XGC..		0.65	2.32	0.08	1.29	19.2	0.75	17.5 ± 0.7	0.68 ± 0.027	0.2	0.007	16.4	0.645
XGH..		1.37	1.32	0.04	0.14	19.2	0.75	17.3 ± 0.7	0.68 ± 0.027	0.45	0.017	16.9	0.665
<p>-L20 Lever (mm)</p> <p>Width of lever 7 mm/0.28 in</p>		XGG..	3.2	11.43	0.38	1.36	21.8	0.85	20.5 ± 0.6	0.81 ± 0.023	0.4	0.015	19.5
	XGA..	3.2	11.43	0.85	3.04	21.8	0.85	20.5 ± 0.6	0.81 ± 0.023	0.2	0.007	19.5	0.767
	XGM..	2	7.14	0.48	1.71	21.8	0.85	20.3 ± 0.6	0.8 ± 0.023	0.4	0.015	19.8	0.779
	XGO..	1.2	4.29	0.09	0.32	21.8	0.85	20.1 ± 0.6	0.79 ± 0.023	0.4	0.015	19.8	0.779
	XGK..	1.5	5.36	0.19	0.68	21.8	0.85	20.5 ± 0.6	0.81 ± 0.023	0.4	0.015	19.5	0.767
	XGB..	1.5	5.36	0.29	1.04	21.8	0.85	20.5 ± 0.6	0.81 ± 0.023	0.2	0.007	19.5	0.767
	XGC..	0.8	2.86	0.09	0.32	21.8	0.85	20.5 ± 0.6	0.81 ± 0.023	0.2	0.007	19.5	0.767
	XGH..	0.45	1.61	0.04	0.14	21.8	0.85	20.3 ± 0.6	0.8 ± 0.023	0.4	0.015	19.8	0.779
	<p>-S20 Lever (mm)</p> <p>Width of roller 6.6 mm/0.26 in</p>	XGG..	3.2	11.43	0.37	1.32	21.8	0.85	20.2 ± 0.7	0.79 ± 0.027	0.4	0.015	19.3
XGA..		3.2	11.43	0.56	2	21.8	0.85	20.2 ± 0.7	0.79 ± 0.027	0.2	0.007	19.3	0.759
XGM..		2	7.14	0.47	1.68	21.8	0.85	20.1 ± 0.7	0.79 ± 0.027	0.4	0.015	19.7	0.775
XGO..		1.2	4.29	0.09	0.32	21.8	0.85	20.1 ± 0.7	0.79 ± 0.027	0.4	0.015	19.7	0.775
XGK..		1.5	5.36	0.18	0.64	21.8	0.85	20.2 ± 0.7	0.79 ± 0.027	0.4	0.015	19.3	0.759
XGB..		1.5	5.36	0.28	1	21.8	0.85	20.2 ± 0.7	0.79 ± 0.027	0.2	0.007	19.3	0.759
XGC..		0.8	2.86	0.09	0.32	21.8	0.85	20.2 ± 0.7	0.79 ± 0.027	0.2	0.007	19.3	0.759
XGH..		0.45	1.61	0.04	0.14	21.8	0.85	20.1 ± 0.7	0.79 ± 0.027	0.4	0.015	19.7	0.775
<p>-T20 *Lever (mm)</p> <p>Width of roller 6.6 mm/0.26 in</p>		XGG..	3.2	11.43	0.37	1.32	21.8	0.85	20.2 ± 0.7	0.79 ± 0.027	0.4	0.015	19.3
	XGA..	3.2	11.43	0.56	2	21.8	0.85	20.2 ± 0.7	0.79 ± 0.027	0.2	0.007	19.3	0.759
	XGM..	2	7.14	0.05	1.68	21.8	0.85	20.1 ± 0.7	0.79 ± 0.027	0.4	0.015	19.7	0.775
	XGO..	1.2	4.29	0.09	0.32	21.8	0.85	20.1 ± 0.7	0.79 ± 0.027	0.4	0.015	19.7	0.775
	XGK..	1.5	5.36	0.18	0.64	21.8	0.85	20.2 ± 0.7	0.79 ± 0.027	0.4	0.015	19.3	0.759
	XGB..	1.5	5.36	0.28	1	21.8	0.85	20.2 ± 0.7	0.79 ± 0.027	0.2	0.007	19.3	0.759
	XGC..	0.8	2.86	0.09	0.32	21.8	0.85	20.2 ± 0.7	0.79 ± 0.027	0.2	0.007	19.3	0.759
	XGH..	0.45	1.61	0.04	0.14	21.8	0.85	20.1 ± 0.7	0.79 ± 0.027	0.4	0.015	19.7	0.775

1) Lever distance 8.2 (0.32) for lever position -20, lever position (-J20, L20, S20, M20)  
Lever distance 14.0 (0.55) for lever position -40, lever position (-J40, L40, S40, M40)

\* For high temperature T125°C/T 150°C (ENEC, UL)

# Snap-action Microswitches – Miniature XG

## Ordering Reference – How to Build a Part Number

<None>Type	XGG..	3.2 N	11.43 oz
Actuating	XGA../XGT..	3.2 N	11.43 oz
Characteristic	XGM..	2.0 N	7.14 oz
	XGO..	1.2 N	4.29 oz
	XGK..	1.5 N	5.36 oz
	XGB..	1.5 N	5.36 oz
	XGC..	0.8 N	2.86 oz
	XGH..	0.45 N	1.61 oz
	XGD..	1.7 N	6.07 oz

Circuit	No digit	Change-over
	4	Normally closed
	5	Normally open

Terminals	02	Faston	6.3 x 0.8
	03	Solder	1.7 x 3.2
	06	Faston	4.8 x 0.5
	10	Faston	4.8 x 0.8
	12	Short solder	Ø 2.3
	15	RAST 5	6.3 x 0.8

Other types of terminals are available on request

Version			Number of operations at rated load	
			Europe	UL
No digit	ENE	UL	50.000	6.000
	T85	T90	50.000	100.000
	A	T90	50.000	6.000
	W	T150	50.000	100.000
	AW	T150	50.000	6.000
	B	T90	10.000	6.000
	V	T130	50.000	6.000
	AV	T130	50.000	100.000
	C	T90	25.000	6.000

Contacts	-88	Ag / AgNi10
	-81	Gold-plated 4 µm (Au) on Ag
	-86	Ag / Ag CdO

Actuators	No digit	Plunger	
	J20/J40	Plain lever	13.5 mm
	J22/J42	Plain lever	24.0 mm
	J23/J43	Plain lever	27.8 mm
	J27/J47	Plain lever	60.0 mm
	M20/M40	Plain lever formed	14.7 mm
	L20/L40	Cam follower	12.5 mm
	L21/L41	Cam follower	25.9 mm
	S20/S40	Roller lever	12.8 mm
	T20/T40	Roller lever. 150°C version	12.8 mm

Other actuators available on request