# **Subminiature Precision Snap-acting Switches**



#### Features/Benefits

- Compact design
- Long life and high electrical capacity
- Quick connect, wire lead or PC mounting
- Wide variety of actuator styles

## Typical Applications

- Motorized equipment
- Sump pump
- Thermostatic controls

### UL61058-1





## **Specifications**

CONTACT RATING: From low level\* to 10.1 AMPS @ 250 V AC.

ELECTRICAL LIFE: 100,000 cycles

INSULATION RESISTANCE: 1,000 M  $o\eta\mu$  min.

DIELECTRIC STRENGTH: 1,000 Vrms min. @ sea level.

OPERATING TEMPERATURE: -17°F to 185°F (-25°C to 85°C).

OPERATING FORCE: From 142 to 170 grams at actuator button.

Forces are less at free end of lever actuators; (see OPERATING

FORCE and ACTUATOR option sections).

MOUNTING: 2-56 screws, torque 2.3 in/lbs max.

\* Low Level=conditions where no arcing occurs during switching, i.e., 0.4 VA max. @ 20 V AC or DC max.

NOTE: Specifications and materials listed above are for switches with standard options. For information on specific and custom switches, consult Customer Service center

#### **Materials**

SWITCH HOUSING: Thermoplastic polyester or high temperature thermoplastic (PTS) (UL 94V-0).

ACTUATOR BUTTON: Thermoplastic polyester (UL 94V-0).

SPRING: Copper alloy.

PIVOT: Copper alloy.

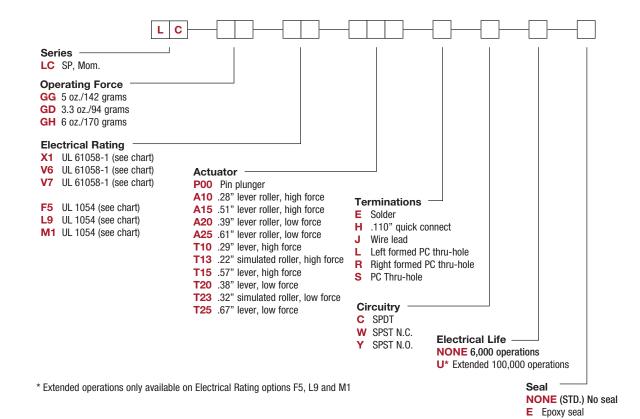
MOVABLE CONTACTS: Fine silver for ratings greater than 1 AMP @ 125 V AC. Fine silver with 24K gold plate for 1 AMP @ 125 V AC or less

STATIONARY CONTACTS: Fine silver welded on copper alloy for ratings greater than 1 AMP @ 125 V AC. Gold alloy welded on copper alloy for ratings less than 1 AMP @ 125 V AC.

TERMINALS: Copper alloy. TERMINAL SEAL: Epoxy.

#### **Build-A-Switch**

To order, simply select desired option from each category and place in the appropriate box. Available options are shown and described on pages J-33 through J-35. For additional options not shown in catalog, consult Customer Service Center.





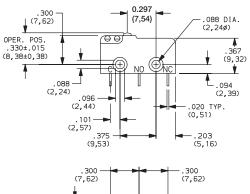
Dimensions are shown: Inch (mm) Specifications and dimensions subject to change

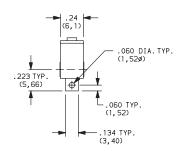
www.ckswitches.com

# **LC Series Subminiature Precision Snap-acting Switches**

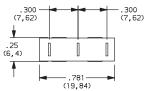
#### **SERIES** ----

LC SUBMINIATURE PRECISION SNAP-ACTING SWITCHES SP MOMENTARY









## **OPERATING FORCE**



OPTION CODE	BASIC SWITCH OPERATING FORCES (OZ./GRAMS)			
GG	5 142			
GD	3.3 94			
GH	6 170			

NOTE: Operating force varies with actuator option, see ACTUATOR option section.

# **ELECTRICAL RATING**

		Н

	UL 61058-1	CONTA	ACT MATERIAL		
OPTION CODE	ELECTRICAL RATING	MOVABLE CONTACT	STATIONARY CONTACT	RoHS COMPLIANT*	RoHS COMPATIBLE*
X1	1A GP, 250 Vac, 50/60 Hz, 25E3, T85 1RA, 30 Vdc, 1E4, T85	Fine silver with 24K gold plate	Fine silver with 24K gold plate on copper base alloy	Yes	Yes
<b>V</b> 6	5(2)A RM, 250 Vac, 50/60 Hz, 1E4, T85 5A GP, 250 Vac, 50/60 Hz, 1E4, T85 5RA, 30 Vdc, 1E4, T85 1/3 HP, 125/250 Vac, 50/60 Hz, 1E4, T85	Fine silver	Fine silver welded on copper base alloy	Yes	Yes
<b>V</b> 7	10(2)A RM, 250 Vac, 50/60 Hz, 1E4, T85 10A GP, 250 Vac, 50/60 Hz, 1E4, T85 10RA, 30 Vdc, 1E4, T85 1/3 HP, 125/250 Vac, 50/60 Hz, 1E4, T85	Fine silver	Fine silver welded on copper base alloy	Yes	Yes

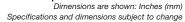
	UL 1054	CONTA	CT MATERIAL		
OPTION CODE	ELECTRICAL RATING	MOVABLE CONTACT	STATIONARY CONTACT	RoHS COMPLIANT*	RoHS COMPATIBLE*
F5	1A, 125 V AC, 30 VDC 100,000 cycles ("U" option)	Fine silver with 24K gold plate	Fine silver with 24K gold plate on copper base alloy	Yes	Yes
L9	5A, 1/3 HP @ 125 and 250 V AC 100,000 cycles ("U" option)	Fine silver	Fine silver welded on copper base alloy	Yes	Yes
M1	10.1A, 1/3 HP @ 125 and 250 V AC 100,000 cycles ("U" option)	Fine silver	Fine silver welded on copper base alloy	Yes	Yes



<sup>\*</sup> Note: See Technical Data section of this catalog for RoHS compliant and compatible definition and specifications. Consult Customer Service Center for availability and delivery of nonstandard ratings. \*Low Level = conditions where no arcing occurs during switching, i.e., 0.4 VA max. @ 20 V AC or DC max.



Third Angle Projection





# **ACTUATOR**



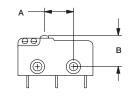


FIG. 1 Pin Plunger

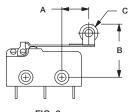
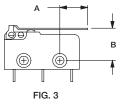
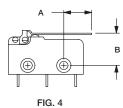


FIG. 2 Lever Roller



Lever LOW FORCE

HIGH FORCE



Lever

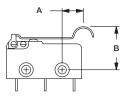
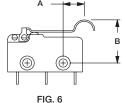
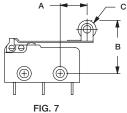


FIG. 5 Simulated Roller



Simulated Roller





Lever Roller

## **SWITCH CHARACTERISTICS**

OPTION	MAXIMUM OPERATING FORCE (OZ./GRAMS)			MINIMUM RELEASE FORCE (OZ./GRAMS)			MAXIMUM DIFFERENTIAL TRAVEL	MAXIMUM PRETRAVEL	MINIMUM OVERTRAVEL
CODE	GG	GD	GH	GG	GD	GH	ALL FORCES	ALL FORCES	ALL FORCES
A10	1.69	1	2.0	.21	.11	.42	.034	.140	.029
	48	28	57	6	3	12	(0,86)	(3,56)	(0,74)
A15	1.3	.68	1.6	.16	.07	.32	.044	.180	.037
	37	19	44	4.5	2	9	(1,12)	(4,57)	(0,94)
A20	0.9	.52	1.1	.11	.05	.21	.067	.272	.053
	26	15	31	3	15	6	(1,70)	(6,91)	(1,53)
A25	.70	.42	.85	.07	.04	.16	.086	.351	.068
	20	12	24	2	1	4.5	(2,18)	(8,92)	(1,73)
P00	5	3.3	6	1	.05	2.0	.004	.030	.010
	142	95	170	28	14	57	(0,10)	(0,76)	(0,25)
T10	1.7	1	2.1	.21	.10	.39	.035	.140	.029
	48	28	60	6	3	11	(0,90)	(3,56)	(0,74)
T13	1.8	1.2	2.2	.21	.03	.42	.032	.130	.026
	52	34	62	6	1	12	(0,81)	(3,30)	(0,66)
T20	0.9	.52	1.1	.10	.03	.21	.067	.276	.053
	26	15	30	3	1	6	(1,70)	(7,01)	(1,35)
T23	1.0	.52	1.2	.10	.03	.21	.062	.252	.049
	28	15	34	3	1	6	(1,57)	(6,40)	(1,24)
T25	0.7	.05	0.8	.07	.03	.14	.090	.372	.072
	19	14	24	2	1	4	(2,29)	(9,45)	(1,83)
T15	1.2	1.3	1.5	0.14	.21	.28	.047	.190	.040
	35	39	42	4	6	81	(1,19)	(4,83)	(1,02)

NOTE: For basic switch operating forces, see page J-32.



Dimensions are shown: Inch (mm) Specifications and dimensions subject to change



(H)

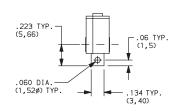
(11)

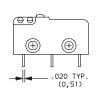
.020 TYP. (0,51)

# **TERMINATIONS**

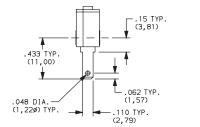






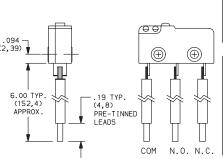


# H .110" QUICK CONNECT



NOTE: Use Amp Quick Connect Part No. 640932-1.

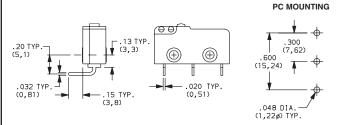




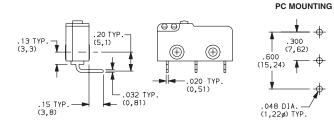
WIRE SIZE
22 AWG
20 AWG
18 AWG

TERMINAL	WIRE COLOR
COMMON	BLACK
NORMALLY OPEN	WHITE
NORMALLY CLOSED	RED

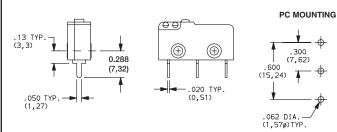
L LEFT FORMED PC THRU-HOLE



RIGHT FORMED PC TRU-HOLE







## **CIRCUITRY**

- C SPDT (Single Pole, Double Throw)
- SPST N.C. (Single Pole, Single Throw, Normally Closed)
- SPST N.O. (Single Pole, Single Throw, Normally Open)

# **ELECTRICAL LIFE**

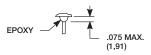
NONE 6,000 OPERATIONS

U EXTENDED 100,000 OPERATIONS

# SEAL ----

NONE NO SEAL







Specifications and dimensions subject to change



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831060C3.TL 831090C2.EL 83131904 84212012 8AS239 8HM73-3 903VB1-PG 914CE1-6G PL-100 11SM1077-H4 11SM1077-H58
11SM1-TN107 11SM405 11SM703-T 11SM8423-H2 11SX37-T 11SX48-H58 11SX55-H58 11SM2442-T 11SM76-T 11SM77-H58
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