# **Small Size 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

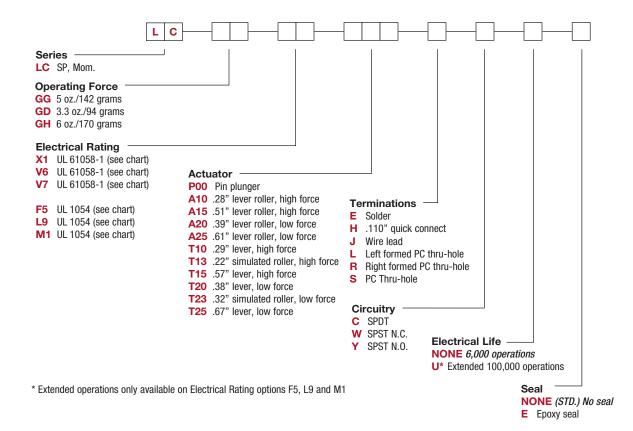
STATIONARY CONTACTS: Fine silver welded on copper alloy for ratings greater than 1 AMP @ 125 V AC. Gold alloy welded on copper alloy for ratings less than 1 AMP @ 125 V AC.

TERMINALS: Copper alloy.

TERMINAL SEAL: Epoxy.

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

To order, simply select desired option from each category and place in the appropriate box. For additional options not shown in catalog, consult Customer Service Center.



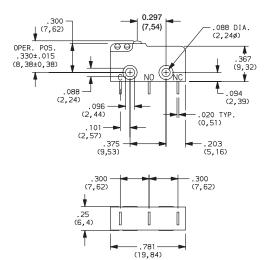


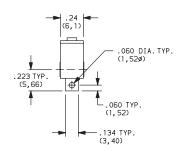
Dimensions are shown: Inch (mm) Specifications and dimensions subject to change

# **LC Series Small Size Precision Snap-acting Switches**

## **SERIES**

LC SMALL SIZE 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**

	UL 61058-1	CONTA	CT 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
V7	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

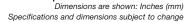


<sup>\*</sup> Note: See Technical Data section of this catalog for RoHS compliant and compatible definition and specifications. Consult Customer Service Center for availability and delivery of nonstandard ratings.

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



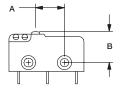
Third Angle Projection





# **ACTUATOR**

OPTION CODE	FIG.	DIM. A	DIM. B	DIM. C
P00	1	0.297 (7,6)	.330 ± .015 (8,38 ± 0,38)	-
A10	7	0.28 (7,1)	.570 ± .070 (14,48 ± 1,78)	.19 dia. (4,8Ø)
A25	2	0.61 (15,5)	.570 ± .175 (14,22 ± 4,45)	.19 dia. (4,8Ø)
T10	3	0.29 (7,4)	.340 ± .070 (8,64 ± 1,78)	_
T13	5	0.220 (5,3)	.455 ± .065 (11,56 ± 1,65)	_
T20	4	0.39 (9,9)	.340 ± .140 (8,64 ± 3,56)	_
T23	6	0.32 (8,1)	.455 ± .125 (11,56 ± 3,18)	_
T25	4	0.67 (17,0)	.340 ± .091 (8,64 ± 4,70)	_
A15	7	0.51 (13,0)	.560 ± .090 (14,22 ± 2,29)	.19 dia. (4,8Ø)
A20	2	0.38 (9,7)	.560 ± .135 (14,22 ± 2,29)	.19 dia. (4,8Ø)
T15	3	0.57 (14,51)	.340 ± .100 (8,64 ± 2,54)	-



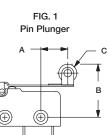
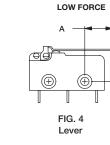


FIG. 2 Lever Roller



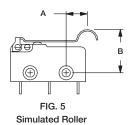
HIGH FORCE

FIG. 3

Lever

В

В



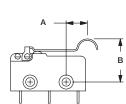
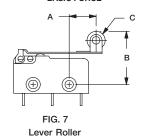


FIG. 6 Simulated Roller

BASIC FORCE



### **SWITCH CHARACTERISTICS**

OPTION		IMUM OPERA RCE (OZ./GRA		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.



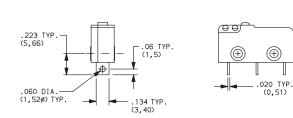
Dimensions are shown: Inch (mm)
Specifications and dimensions subject to change



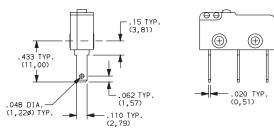
**LC Series** 

## **TERMINATIONS**

E SOLDER



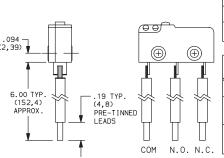
H .110" QUICK CONNECT



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

**Small Size Precision Snap-acting Switches** 

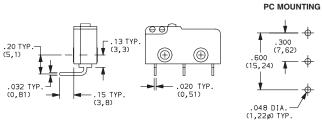
J WIRE LEAD



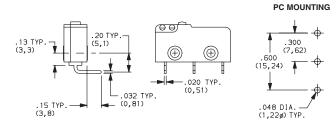
WIRE SIZE
22 AWG
20 AWG
18 AWG

TERMINAL	WIRE COLOR
COMMON	BLACK
NORMALLY OPEN	WHITE
NORMALLY CLOSED	RED

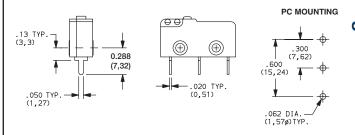
L LEFT FORMED PC THRU-HOLE



RIGHT FORMED PC TRU-HOLE



S PC THRU-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**

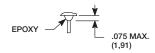
NONE 6,000 OPERATIONS

U EXTENDED 100,000 OPERATIONS

### **SEAL**

NONE NO SEAL

E EPOXY SEAL





Specifications and dimensions subject to change



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