

LC Series

Small Size Precision Snap-acting Switches



Description

Those designing motorized equipment, sump pumps and thermostatic controls need a switch that's compact, while still offering a long lifecycle and a high electrical capacity. The LC series small size precision snap-acting switch gives designers these features, as well as a quick connect solution, along with their choice of wire lead or PC mounting.

Features & Benefits

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

Applications

- Motorized equipment
- Sump pump
- Thermostatic controls

Specifications

Contact Rating	From low level ¹ to 10.1 amps @ 250 V AC.
Electrical Life	100,000 cycles
Insulation Resistance	1,000 M ohm min.
Dielectric Strength	1,000 Vrms min. @ sea level
Operating Temperature	-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.

Notes:

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

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 94 V-0).
Actuator Button	Thermoplastic polyester (UL 94 V-0).
Spring	Copper alloy.
Pivot	
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

Agency Approvals

Agency	Agency File Number
c UL us	E42363

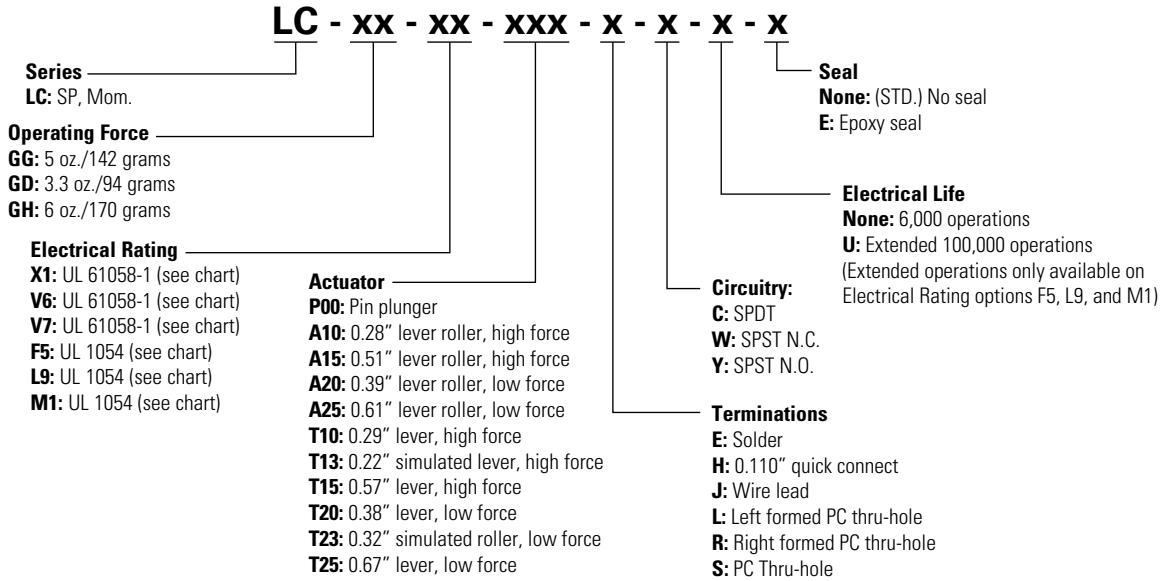
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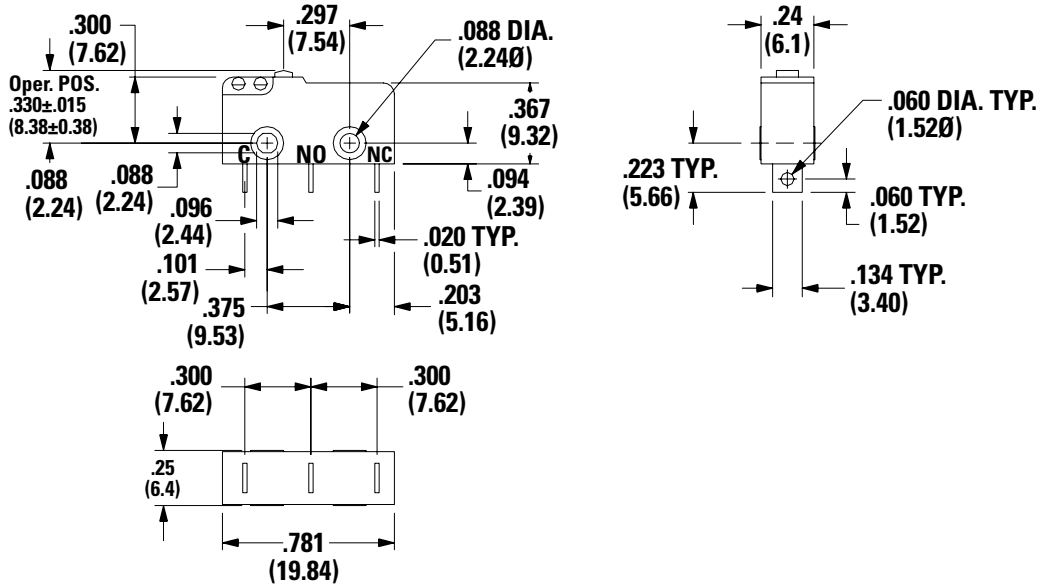
Ordering Number

Our easy build-a-switch concept allows you to mix and match options to create the switch you need. To order, select desired option from each category and place it in the appropriate box.



Series Dimensions inches (mm)

LC Small Size Precision Snap-Acting Switches SP Momentary



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Operating Force

Option Code	Basic Switch Operating Forces (oz./grams)
GG	5, 142
GD	3.3, 94
GH	6, 170

Notes:

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

Electrical Rating UL 61058-1

Option Code	Electrical Rating	Contact Material		RoHS Compliant ¹	RoHS Compatible ¹
		Movable Contact	Stationary Contact		
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
V6	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
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				

UL 1053

Option Code	Electrical Rating	Contact Material		RoHS Compliant ¹	RoHS Compatible ¹
		Movable Contact	Stationary Contact		
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
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
M1	10.1A, 1/3 HP @ 125 and 250 V AC 100,000 cycles ("U" option)				

Notes:

1. 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.



Actuator

Option Code	Figure	Dim. A	Dim. B	Dim. C
P00	1	0.297 (7.6)	0.330 ± 0.015 (8.38 ± 0.38)	-
A10	7	0.28 (7.1)	0.570 ± 0.070 (14.48 ± 1.78)	0.19 dia. (4.80)
A25	2	0.61 (15.5)	0.570 ± 0.175 (14.22 ± 4.45)	0.19 dia. (4.80)
T10	3	0.29 (7.4)	0.340 ± 0.070 (8.64 ± 1.78)	-
T13	5	0.220 (5.3)	0.455 ± 0.065 (11.56 ± 1.65)	-
T20	4	0.39 (9.9)	0.340 ± 0.140 (8.64 ± 3.56)	-
T23	5	0.32 (8.1)	0.455 ± 0.125 (11.56 ± 3.18)	-
T25	4	0.67 (17.0)	0.340 ± 0.091 (8.64 ± 4.70)	-
A15	7	0.51 (13.0)	0.560 ± 0.090 (14.22 ± 2.29)	0.19 dia. (4.80)
A20	2	0.38 (9.7)	0.560 ± 0.135 (14.22 ± 2.29)	0.19 dia. (4.80)
T15	3	0.57 (14.51)	0.340 ± 0.100 (8.64 ± 2.54)	-

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High Force

Figure 1
Pin Plunger

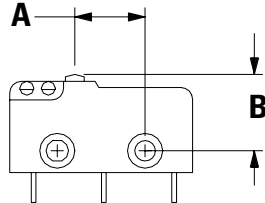


Figure 3 Lever

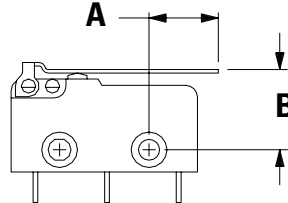
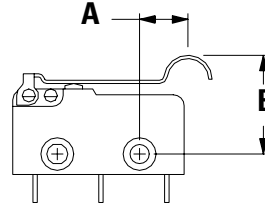


Figure 5
Simulated Roller



Low Force

Figure 2
Lever Roller

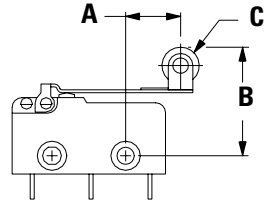


Figure 4
Lever

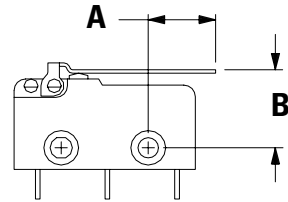
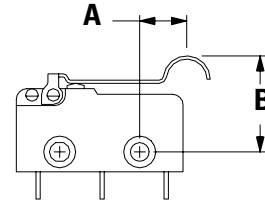
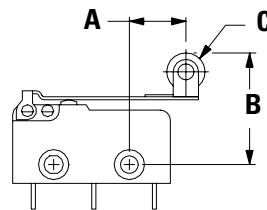


Figure 6
Simulated Roller



Basic Force

Figure 7
Lever Roller



Switch Characteristics

Option Code	Max. Operating Force (oz./grams)			Min. Release Force (oz./grams)			Max. Differential Travel	Max. Pretravel	Min. Overtravel
	GG	GD	GH	GG	GD	GH			
A10	1.69, 48	1, 28	2.0, 57	0.21, 6	0.11, 3	0.42, 12	0.034 (0.86)	0.140 (3.56)	0.029 (0.74)
A15	1.3, 37	0.68, 19	1.6, 44	0.16, 4.5	0.07, 2	0.32, 9	0.044 (1.12)	0.180 (4.57)	0.037 (0.94)
A20	0.9, 26	0.52, 15	1.1, 31	0.11, 3	0.05, 15	0.21, 6	0.067 (1.70)	0.272 (6.91)	0.053 (1.53)
A25	0.70, 20	0.42, 12	0.85, 24	0.07, 2	0.04, 1	0.16, 4.5	0.086 (2.18)	0.351 (8.92)	0.068 (1.73)
P00	5, 142	3.3, 95	6, 170	1, 28	0.05, 14	2.0, 57	0.004 (0.10)	0.030 (0.76)	0.010 (0.25)
T10	1.7, 48	1, 28	2.1, 60	0.21, 6	0.10, 3	0.39, 11	0.035 (0.90)	0.140 (3.56)	0.029 (0.74)
T13	1.8, 52	1.2, 34	2.2, 62	0.21, 6	0.03, 1	0.42, 12	0.032 (0.81)	0.130 (3.30)	0.026 (0.66)
T20	0.9, 26	0.52, 15	1.1, 30	0.10, 3	0.03, 1	0.21, 6	0.067 (1.70)	0.276 (7.01)	0.053 (1.35)
T23	1.0, 28	0.52, 15	1.2, 34	0.10, 3	0.03, 1	0.21, 6	0.062 (1.57)	0.252 (6.40)	0.049 (1.24)
T25	0.7, 19	0.05, 14	0.8, 24	0.07, 2	0.03, 1	0.14, 4	0.090 (2.29)	0.372 (9.45)	0.072 (1.83)
T15	1.2, 35	1.3, 39	1.5, 42	0.14, 4	0.21, 6	0.28, 81	0.047 (1.19)	0.190 (4.83)	0.040 (1.02)

Notes:
For Basic Switch operating forces, see page J-32.

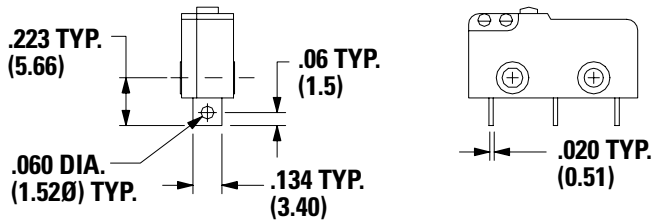
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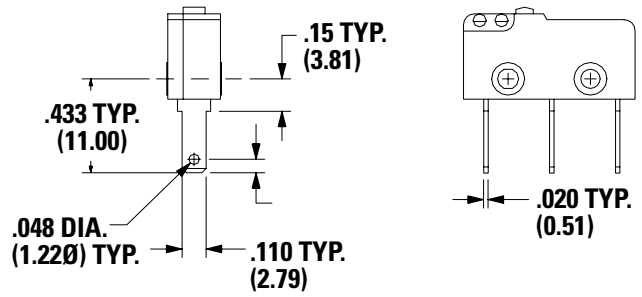


Terminations Dimensions inches (mm)

E Solder

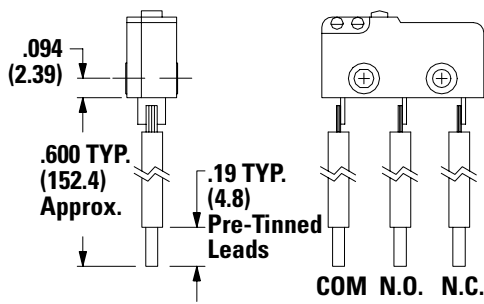


H 0.110" Quick Connect

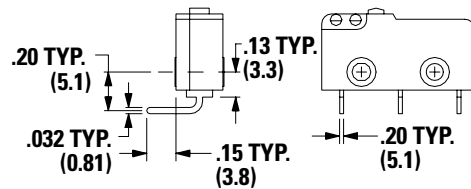


Note: Use Amp Quick Connect Part No. 640932-1.

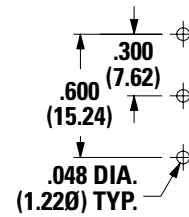
J Wire Lead



L Left Formed PC Thru-hole



PC Mounting



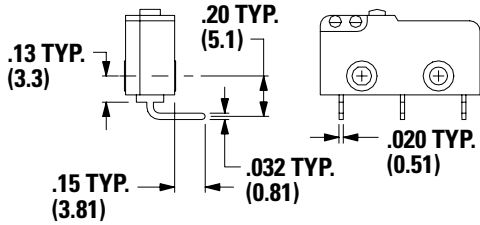
Rating	Wire Size	Terminal	Wire Color
1 amp	22 AWG	Common	22 AWG
5 amps	20 AWG	Normally Open	20 AWG
10.1 amps	18 AWG	Normally Closed	18 AWG

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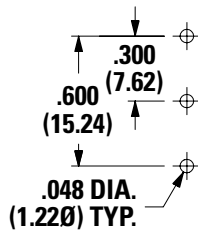
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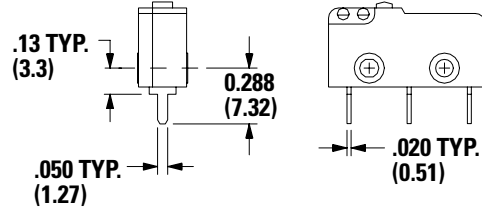
R Right Formed PC Thru-hole



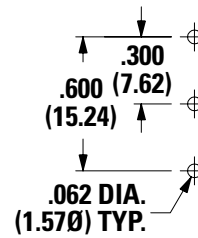
PC Mounting



S PC Thru-hole



PC Mounting



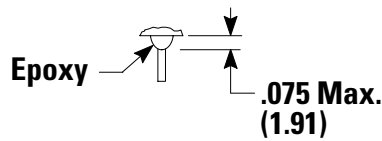
Circuitry

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

Electrical Life

- None:** 6,000 Operations
- U:** Extended 100,000 Operations

Seal Epoxy Seal



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