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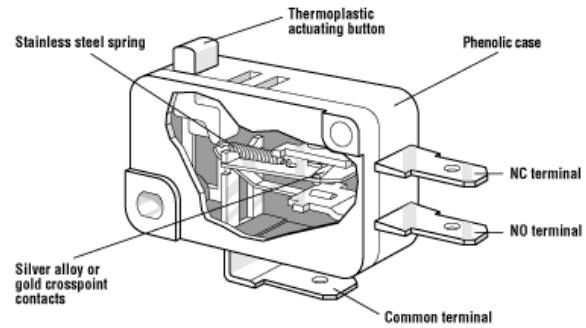
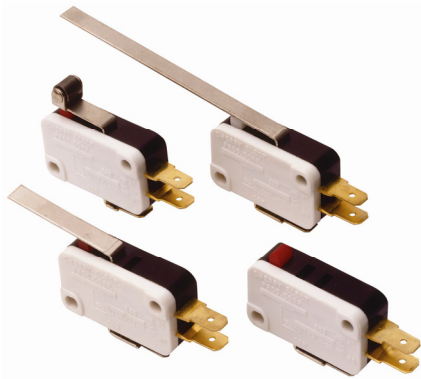
# MINIATURE Switch

# E21-E36 Series

Not recommended for new designs

Please review our D4 series

<http://www.cherrycorp.com/english/switches/miniature/d4.htm>



## Features

<ul style="list-style-type: none"> <li>• 8 Contact Ratings DC ratings optional</li> <li>• High temperature versions optional</li> </ul>	<ul style="list-style-type: none"> <li>• Standard or light force versions available</li> <li>• Agency approved long life versions optional</li> </ul>
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## Electrical Ratings and Operating Life

Switch Series	According to UL 1054	
	Nominal Load	Electrical Life at Rated Load
E21	0.1A 125 VAC (0.25A, 30VDC optional)	6000**
E22	3A 125/250 VAC, 1/10 HP 250 VAC (0.1A, 125VDC optional)	6000
E23	5A ¼ HP, 125/250 VAC	6000
E31	1A 125 VAC	6000
E33	10A ½ HP 125/250 VAC (6A 30VDC optional)	6000**
E34	15A ½ HP 125/250 VAC	6000*
E35	20.1A ½ HP 125/250 VAC	6000
E36	25A 125/250 VAC; 1 HP 125 VAC, 2 HP 250 VAC	6000

\* Indicates 100K UL Life available on AC versions optional. \*\* Indicates 100K UL Life available on AC and DC versions optional Contact Factory for new part number.

## Technical Specifications

**Temperature Rating:** -40°C to 85°C (130°C and 150°C optional. Not available on E36. Contact factory for special part numbers.)

**Flammability Rating:** UL94HB

**Mounting:** Recommended screw: #4-40 round head, UL approved. Recommended torque: 3 inch lbs. max

**UL File No.:** E23301

**RoHS:** Compliant

Specifications subject to change

## Material Specifications

**Case:** General Purpose Phenolic

**Common Terminal:** Silver Plated Brass (E21, E22, E23, E31, E33, E34, E35) Silver Plated Copper (E36)

**NO & NC Terminal:** Brass (E21, E22, E23, E31, E33, E34, E35) Copper (E36)

**Moving Blade:** Brass (E21, E33, E23) Silver Plated Beryllium Copper (E31, E33, E34, E35, E36)

**Actuating Button:** Thermoplastic Acetal

**Auxiliary Actuator:** Cold Rolled Steel (Nickel Plated) (E21 and E22 use Aluminum)

**Contacts:** Silver Alloy  
Gold Crosspoint: E21 and E31  
Fine Silver: E22



E34 only



UL approval only on E35

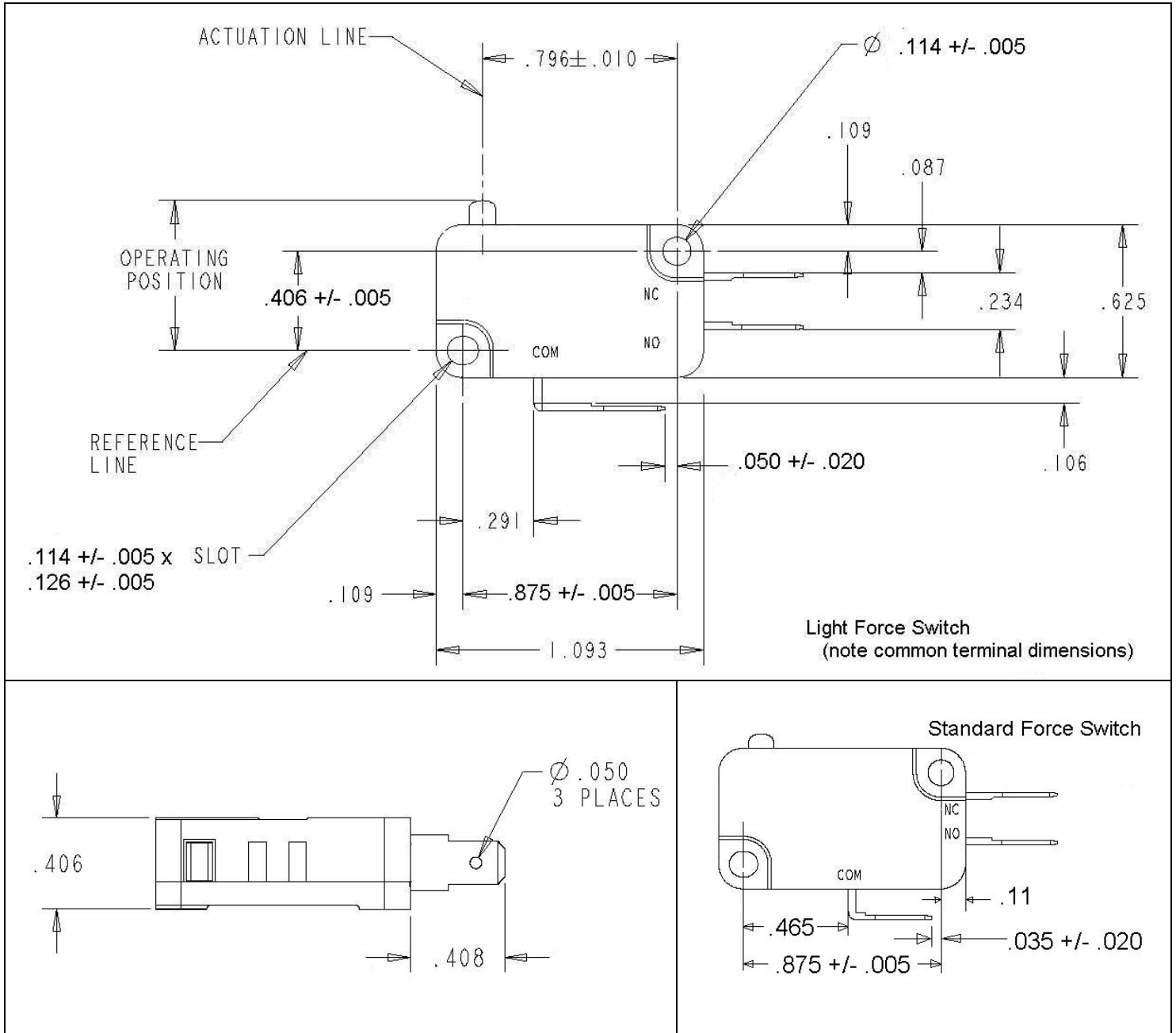




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# E21-E36 Series

Dimensions inches



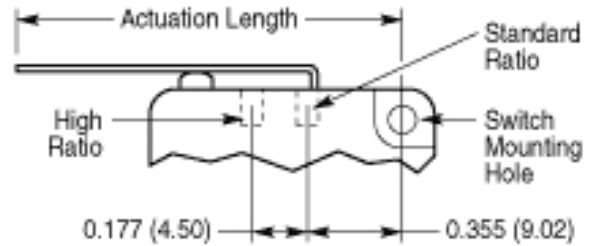
Common terminal dimensions valid for 0.187" QC terminals only

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# E21-E36 Series

## Actuators

Standard type integral hinged lever and roller actuators are available in choice of 2 mounting positions. Actuation lengths are dimensioned from the centerline of the switch mounting hole as shown.



Plastic Actuator for -90N and -90NX switches	Plastic Actuator for -50N and -50NX switches
<p>Diagram illustrating the dimensions and labels for a plastic actuator for -90N and -90NX switches. The actuation length is 1.332 +/- .031. The operating position is .735 to .851. The actuation line is shown with a radius of R .09.</p>	<p>Diagram illustrating the dimensions and labels for a plastic actuator for -50N and -50NX switches. The actuation length is 1.382. The operating position is .555 to .645. The reference line is shown. The switch terminals are labeled COM, NO, and NC.</p>
Roller Actuator	Straight Leaf Actuator
<p>Diagram illustrating the dimensions and labels for a roller actuator. The dimensions are 0.182" (Ref) and 0.187" (Ref).</p>	<p>Diagram illustrating the dimensions and labels for a straight leaf actuator. The dimensions are .180 and .025.</p>

Note: Plastic levers only available on 85°C rated switches

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# E21-E36 Series

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## Actuator Specifications

Item Number	Actuator	UL Rating	Maximum Operating Force (grams)	Maximum Pretravel inches (mm)	Operating Point* inches (mm)	Minimum Overtravel inches (mm)	Max. Movement Differential inches (mm)	Actuation Length**
0E2100AX		0.1A, 125VAC (0.25A, 30VDC optional)	15	0.047 (1.19)	0.578 +/- 0.020 (14.68 +/- 0.51)	.050 (1.27)	0.010 (0.25)	N/A
0E2100K0		0.1A, 125VAC (0.25A, 30VDC optional)	75	0.047 (1.19)	0.806 +/- 0.030 (20.47 +/- 0.76)	0.040 (1.02)	0.010 (0.25)	0.810 (20.57)
0E2150H0		0.1A, 125VAC (0.25A, 30VDC optional)	35	0.125 (3.18)	0.600 +/- 0.045 (15.24 +/- 0.51)	0.085 (2.16)	0.030 (0.76)	1.40 (35.56)
0E2200AX		3A, 125/250VAC 1/10HP, 250VAC (0.1A, 125VDC optional)	15	0.047 (1.19)	0.578 +/- 0.020 (14.68 +/- 0.51)	.050 (1.27)	0.010 (0.25)	N/A
0E2200K0		3A, 125/250VAC 1/10HP, 250VAC (0.1A, 125VDC optional)	75	0.047 (1.19)	0.806 +/- 0.030 (20.47 +/- 0.76)	0.040 (1.02)	0.010 (0.25)	0.810 (20.57)
0E2250HX		3A, 125/250VAC 1/10HP, 250VAC (0.1A, 125VDC optional)	8	0.125 (3.18)	0.600 +/- 0.045 (15.24 +/- 0.51)	0.085 (2.16)	0.030 (0.76)	1.40 (35.56)
0E2250K0		3A, 125/250VAC 1/10HP, 250VAC (0.1A, 125VDC optional)	35	0.125 (3.18)	0.806 +/- 0.045 (20.47 +/- 1.14)	0.085 (2.16)	0.030 (0.76)	1.34 (34.04)
0E2250KL		3A, 125/250VAC 1/10HP, 250VAC (0.1A, 125VDC optional)	25	0.200 (5.08)	0.806 +/- 0.075 (20.47 +/- 1.91)	0.120 (3.05)	0.040 (1.02)	1.516 (38.51)
0E2255HX		3A, 125/250VAC 1/10HP, 250VAC (0.1A, 125VDC optional)	4	0.300 (7.62)	0.600 +/- 0.100 (15.24 +/- 2.54)	0.187 (4.75)	0.065 (1.65)	2.757 (70.03)
0E2285HX		3A, 125/250VAC 1/10HP, 250VAC (0.1A, 125VDC optional)	2	0.500 (12.70)	0.600 +/- 0.175 (15.24 +/- 4.45)	0.312 (7.92)	0.100 (2.54)	2.932 (74.47)
0E2300A0		5A, 1/4HP, 125/250VAC	170	0.047 (1.19)	0.578 +/- 0.020 (14.68 +/- 0.51)	.050 (1.27)	0.010 (0.25)	N/A
0E2300K0		5A, 1/4HP, 125/250VAC	170	0.047 (1.19)	0.806 +/- 0.030 (20.47 +/- 0.76)	0.040 (1.02)	0.010 (0.25)	0.810 (20.57)
0E2350H0		5A, 1/4HP, 125/250VAC	85	0.125 (3.18)	0.600 +/- 0.045 (15.24 +/- 0.51)	0.085 (2.16)	0.030 (0.76)	1.40 (35.56)
0E2350K0		5A, 1/4HP, 125/250VAC	86	0.125 (3.18)	0.806 +/- 0.045 (20.47 +/- 1.14)	0.085 (2.16)	0.030 (0.76)	1.34 (34.04)
0E2355HX		5A, 1/4HP, 125/250VAC	10	0.300 (7.62)	0.600 +/- 0.100 (15.24 +/- 2.54)	0.187 (4.75)	0.065 (1.65)	2.757 (70.03)
0E2385HX		5A, 1/4HP, 125/250VAC	6	0.500 (12.70)	0.600 +/- 0.175 (15.24 +/- 4.45)	0.312 (7.92)	0.100 (2.54)	2.932 (74.47)
0E3300A0		10A, 1/2HP, 125/250VAC (6A, 30VDC optional)	285	0.047 (1.19)	0.578 +/- 0.020 (14.68 +/- 0.51)	.050 (1.27)	0.010 (0.25)	N/A
0E3300AX		10A, 1/2HP, 125/250VAC (6A, 30VDC optional)	75	0.047 (1.19)	0.578 +/- 0.020 (14.68 +/- 0.51)	.050 (1.27)	0.010 (0.25)	N/A
0E3300K0		10A, 1/2HP, 125/250VAC (6A, 30VDC optional)	285	0.047 (1.19)	0.806 +/- 0.030 (20.47 +/- 0.76)	0.040 (1.02)	0.010 (0.25)	0.810 (20.57)
0E3350H0		10A, 1/2HP, 125/250VAC (6A, 30VDC optional)	144	0.125 (3.18)	0.600 +/- 0.045 (15.24 +/- 0.51)	0.085 (2.16)	0.030 (0.76)	1.40 (35.56)
0E3350HL		10A, 1/2HP, 125/250VAC (6A, 30VDC optional)	86	0.220 (5.59)	0.600 +/- 0.075 (15.24 +/- 1.91)	0.130 (3.30)	0.040 (1.02)	1.580 (40.13)
0E3350K0		10A, 1/2HP, 125/250VAC (6A, 30VDC optional)	144	0.125 (3.18)	0.806 +/- 0.045 (20.47 +/- 1.14)	0.085 (2.16)	0.030 (0.76)	1.34 (34.04)
0E3385HX		10A, 1/2HP, 125/250VAC (6A, 30VDC optional)	10	0.500 (12.70)	0.600 +/- 0.175 (15.24 +/- 4.45)	0.312 (7.92)	0.100 (2.54)	2.932 (74.47)
0E3400A0		15A, 1/2HP, 125/250VAC	400	0.047 (1.19)	0.578 +/- 0.020 (14.68 +/- 0.51)	.050 (1.27)	0.010 (0.25)	N/A
0E3400K0		15A, 1/2HP, 125/250VAC	400	0.047 (1.19)	0.806 +/- 0.030 (20.47 +/- 0.76)	0.040 (1.02)	0.010 (0.25)	0.810 (20.57)
0E3450HX		15A, 1/2HP, 125/250VAC	50	0.125 (3.18)	0.600 +/- 0.045 (15.24 +/- 0.51)	0.085 (2.16)	0.030 (0.76)	1.40 (35.56)
0E3450K0		15A, 1/2HP, 125/250VAC	200	0.125 (3.18)	0.806 +/- 0.045 (20.47 +/- 1.14)	0.085 (2.16)	0.030 (0.76)	1.34 (34.04)
0E3455HX		15A, 1/2HP, 125/250VAC	22	0.300 (7.62)	0.600 +/- 0.100 (15.24 +/- 2.54)	0.187 (4.75)	0.065 (1.65)	2.757 (70.03)
0E3485HX		15A, 1/2HP, 125/250VAC	13	0.500 (12.70)	0.600 +/- 0.175 (15.24 +/- 4.45)	0.312 (7.92)	0.100 (2.54)	2.932 (74.47)

\* Measured above reference line. Refer to dimensional drawing.

\*\* Actuator tolerance +/- 0.031" (0.787).

**NOTE:** E35 and E36 available in light force only.

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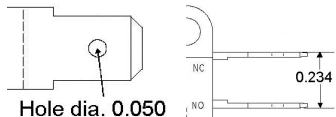
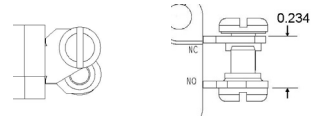
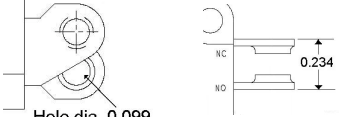
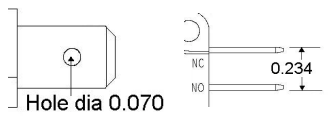
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# E21-E36 Series

## Terminals

 <p>Hole dia. 0.050</p> <p>0.187 x 0.020 QC Terminals Suffix -00</p>	 <p>Screw Terminals (special order) Suffix -10</p>	 <p>Hole dia. 0.099</p> <p>Solder Terminals (special order) Suffix -20</p>	 <p>Hole dia 0.070</p> <p>0.250 x 0.032 QC Terminals Suffix -40</p>
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**Note:** 0.187" Quick Connect terminals are standard i.e. part number E21-00A

To order 0.250" Quick Connect terminals 'add' the suffix to the part number, i.e. E21-40A

## Circuitry

Terminal	Standard Force			Light Force		
	SPDT	SPST NO	SPST NC	SPDT	SPST NO	SPST NC
QC 0.187"	-00A	-01A	-02A	-00AX	-01AX	-02AX
Screw	-10A	-11A	-12A	-10AX	-11AX	-12AX
Solder	-20A	-21A	-22A	-20AX	-21AX	-22AX
QC 0.250"	-40A	-41A	-42A	-40AX	-41AX	-42AX

**Note:** 1. SPDT contact arrangement is standard. In general, normally open switches may be ordered by changing the suffix number from -00 to -01 and normally closed may be ordered by changing the suffix from -00 to -02. See above for assistance.

2. E35 and E36 only available as light force with 0.250" QC terminals.

## Ordering Information

1. Select the contact rating prefix you need (E21-E36).
2. Combine the prefix with the corresponding terminal configuration. For example part number E21-00H will provide you with a gold crosspoint miniature switch with 0.187" QC terminals and a straight lever with a 0.865" actuation length
3. To order a normally open version simply 'add 1' to the suffix to obtain E21-01H and normally closed 'add 2' for part number E21-02H.
4. To order a E21-00H with .screw terminals, 'add' the new terminal code (-10) to the part number – E21-10H will be the resulting part number for a miniature switch with screw terminals and a straight lever with a 0.865" actuation length.

## Contact

Call, fax or visit our Website for more information.

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