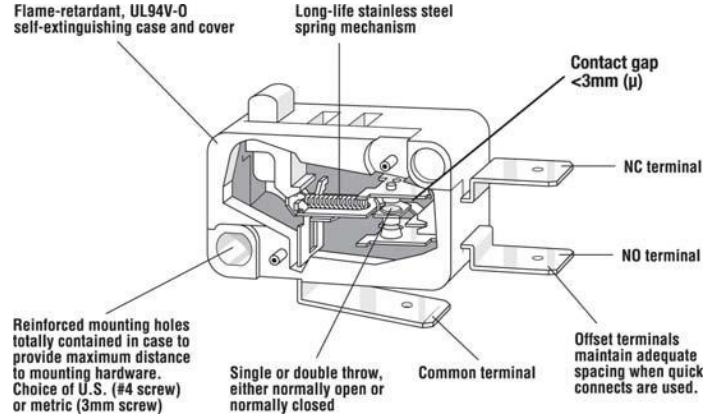


# D4 Series

<http://switches-sensors.zf.com/us/product/miniature-d4/> FOR PRODUCT INFORMATION.



## Features

- 6 current ratings
- Various terminal types
- Cadmium-free contact material available
- Choice of standard or light operating force
- Long life coil spring mechanism
- Agency approved extended life versions
- ENEC/VDE approval standard
- Tracking index PTI 300 according to IEC 6011
- UL File number E314201

## Electrical Ratings

| Switch Series | EN61058 Rating                                   | UL1054 Rating   | Electrical Life at Rated Load at 85° C |                                   |
|---------------|--|---|--|-----------------------------------|
|               |  |   | According to EN (Min. Operations)      | According to UL (Min. Operations) |
| D41           | 0.1(0.05)A, 250V~;<br>0.5A 30VDC                 | 0.1A, 125/250VAC; 0.5A 30VDC,<br>1A 125VAC (6k life only) | 50,000                                 | 6,000*                            |
| D42           | 3(1)A, 250V~                                     | 3A, 125/250VAC; 1/10HP,<br>250VAC                         | 50,000                                 | 6,000*                            |
| D43           | 6(2)A, 250V~                                     | 5A, 125/250VAC, 1/4HP, 250VAC                             | 50,000                                 | 6,000*                            |
| D44           | 10(3)A, 250V~                                    | 10A, 1/2HP, 125/250VAC                                    | 50,000                                 | 6,000*                            |
| D45           | 16(4)A, 250V~<br>10(3)A, 400V~ (Std. force only) | 15A, 1/2HP, 125/250VAC                                    | 50,000                                 | 6,000*                            |
| D48           | 21(8)A, 250V~                                    | 21A, 250VAC; 1HP, 125VAC; 2HP,<br>250VAC                  | 10,000                                 | 6,000                             |

Operating life for 125°C and 150°C available upon request.

\*Denotes extended life versions available

## Electrical Specifications

|                     |                               |                      |          |
|---------------------|-------------------------------|----------------------|----------|
| Temperature Rating: | -40° to +85°C, 125°C or 150°C | Flammability Rating: | UL 94V-0 |
|---------------------|-------------------------------|----------------------|----------|

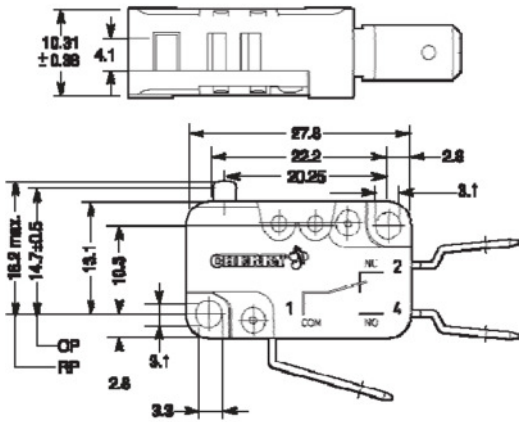
## Materials

|                     |  |                 |                        |
|---------------------|--|-----------------|------------------------|
| Case/Cover:         | Thermoplastic Polyester (PET)                        | NO/NC Terminals | Brass                  |
| Actuating Button:   | Thermoplastic Acetal (POM), 85°C                     | Moving Blade:   | Silver Plated Brass    |
|                     | Thermoplastic Polyester (PET), 125°C or 150°C        |                 | Gold Crosspoint (D41)  |
| Auxiliary Actuator: | Stainless Steel or Cold-Rolled Steel (Nickel-Plated) | Contacts:       | Silver (D42)           |
| Common Terminal:    | Brass  |                 | Silver Alloy (D43-D48) |

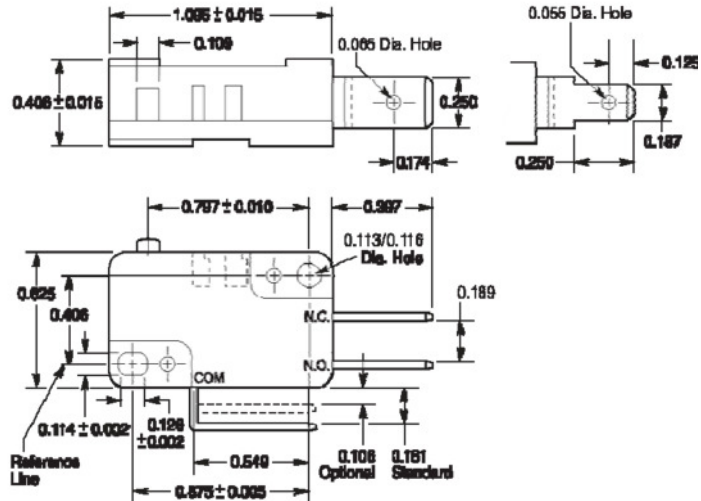


# D4 Series

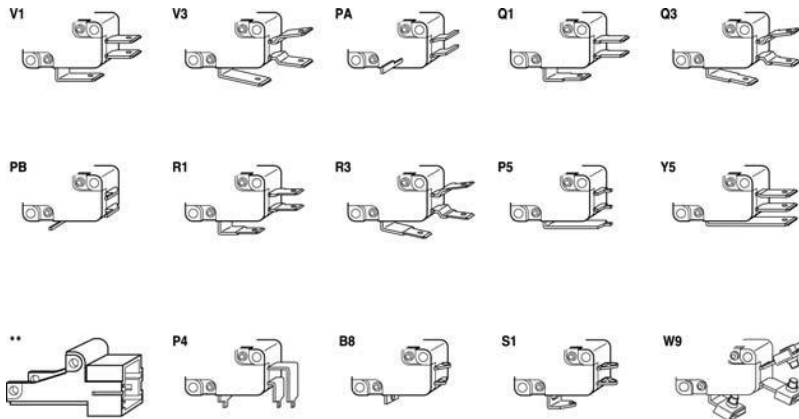
## European Version (mm)



## U.S. Version (inches)



### Terminals



- \* Connector part #823-0518 (mates with Y5 only)
- \*\* Connector housing for RAST 5 QC terminals

### Actuators

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

### Identifiers

Switches with a "standard" operating force are identified by a 'Y' next to the standard model description, e.g. D43Y.

Switches with a "light" operating force are identified by an 'X' next to the standard model description, e.g. D43X.

Switches with 100,000 cycles approved per UL1054 are marked with 'L' in circle.

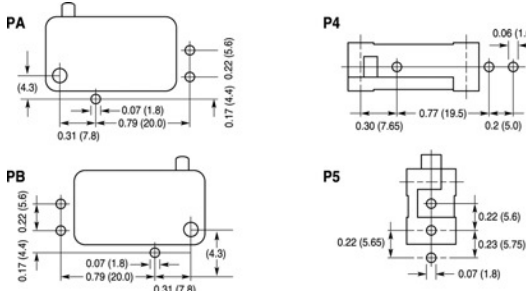
### Mounting — US Version

Recommended mounting screw size: #4-40 Round head with washer. Recommended torque on screw: 60 NCM max.

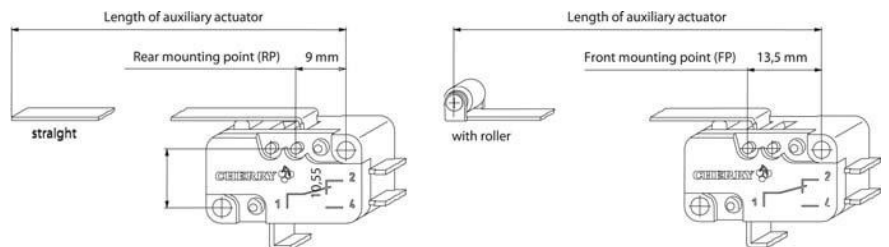
### Mounting — European Version

Recommended mounting screw size with washer: M3. Recommended torque on screw: 60 NCM max.

### Drilling Patterns for PCB Terminals



### Length of Auxiliary Actuator



# D4 Series

## Commonly Stocked Distributor Items

| Item Number | EN Rating   | UL Rating   | Terminals          | Maximum Operating Force (cN) | Maximum Pretravel inches (mm) | Operating Point inches (mm)      | Minimum Overtravel inches (mm) | Max. Movement Differential inches (mm) | Actuation Length inches (mm) | Housing Mark |
|-------------|---|---|--------------------|------------------------------|-------------------------------|----------------------------------|--------------------------------|--|------------------------------|--------------|
| D41CR1AA    | 0.1 (0.05) A, 250 VAC<br>0.5 A, 30 VDC<br>1(1) A, 250 VAC | 0.1 A, 125/250 VAC<br>0.5 A, 30 VDC<br>1 A, 125 VAC | 0.187" x<br>0.020" | 170                          | 0.047" (1.2)                  | 0.559 / 0.599<br>(14.2 / 15.2)   | 0.05" (1.3)                    | 0.012" (0.3)                           | N/A                          | D41Y         |
| D41CR1LA    | 0.1 (0.05) A, 250 VAC<br>0.5 A, 30 VDC<br>1(1) A, 250 VAC | 0.1 A, 125/250 VAC<br>0.5 A, 30 VDC<br>1 A, 125 VAC | 0.187" x<br>0.020" | 190                          | 0.047" (1.2)                  | 0.579" / .618"<br>(14.7 / 15.7)  | 0.035" (0.9)                   | 0.012" (0.3)                           | 0.835"<br>(21.2)             | D41Y         |
| D41CR1LD    | 0.1 (0.05) A, 250 VAC<br>0.5 A, 30 VDC<br>1(1) A, 250 VAC | 0.1 A, 125/250 VAC<br>0.5 A, 30 VDC<br>1 A, 125 VAC | 0.187" x<br>0.020" | 86                           | 0.126" (3.2)                  | 0.551" / 0.646"<br>(14.0 / 16.4) | 0.090" (2.3)                   | 0.031" (0.8)                           | 1.40"<br>(35.6)              | D41Y         |
| D41CR1RA    | 0.1 (0.05) A, 250 VAC<br>0.5 A, 30 VDC<br>1(1) A, 250 VAC | 0.1 A, 125/250 VAC<br>0.5 A, 30 VDC<br>1 A, 125 VAC | 0.187" x<br>0.020" | 190                          | 0.047" (1.2)                  | 0.776" / 0.839"<br>(19.7 / 21.3) | 0.039" (1.0)                   | 0.012" (0.4)                           | 0.811"<br>(20.6)             | D41Y         |
| D41LR1AA    | 0.1 (0.05) A, 250 VAC<br>0.5 A, 30 VDC<br>1(1) A, 250 VAC | 0.1 A, 125/250 VAC<br>0.5 A, 30 VDC<br>1 A, 125 VAC | 0.187" x<br>0.020" | 45                           | 0.047" (1.2)                  | 0.559" / 0.599"<br>(14.2 / 15.2) | 0.05" (1.3)                    | 0.012" (0.3)                           | N/A                          | D41X         |
| D42LR1AA    | 3(1) A, 250 VAC   | 3A, 125/250 VAC,<br>1/10 HP, 250 VAC                | 0.187" x<br>0.020" | 45                           | 0.047" (1.2)                  | 0.559" / 0.599"<br>(14.2 / 15.2) | 0.05" (1.3)                    | 0.012" (0.3)                           | N/A                          | D42X         |
| D42LRGAA    | 3(1) A, 250 VAC   | 3A, 125/250 VAC,<br>1/10 HP, 250 VAC                | 0.187" x<br>0.020" | 2                            | 0.500" (12.7)                 | 0.433" / 0.764"<br>(11.0 / 19.4) | 0.311" (7.9)                   | 0.098" (2.5)                           | 2.93"<br>(74.4)              | D42X         |
| D43CR1AA    | 6(2) A, 250 VAC   | 5A, 125/250 VAC<br>1/4 HP, 250 VAC                  | 0.187" x<br>0.020" | 170                          | 0.047" (1.2)                  | 0.559" / 0.599"<br>(14.2 / 15.2) | 0.05" (1.3)                    | 0.012" (0.3)                           | N/A                          | D43Y         |
| D44CR1AA    | 10(3) A, 250 VAC  | 10 A, 1/2 HP,<br>125/250 VAC<br>6 A, 30 VDC         | 0.187" x<br>0.020" | 285                          | 0.047" (1.2)                  | 0.559" / 0.599"<br>(14.2 / 15.2) | 0.05" (1.3)                    | 0.012" (0.3)                           | N/A                          | D44Y         |
| D44CR1LD    | 10(3) A, 250 VAC  | 10 A, 1/2 HP,<br>125/250 VAC<br>6 A, 30 VDC         | 0.187" x<br>0.020" | 144                          | 0.126" (3.2)                  | 0.551" / 0.646"<br>(14.0 / 16.4) | 0.090" (2.3)                   | 0.031" (0.8)                           | 1.40"<br>(35.6)              | D44Y         |
| D44CR1RA    | 10(3) A, 250 VAC  | 10 A, 1/2 HP,<br>125/250 VAC<br>6 A, 30 VDC         | 0.187" x<br>0.020" | 330                          | 0.047" (1.2)                  | 0.776" / 0.839"<br>(19.7 / 21.3) | 0.039" (1.0)                   | 0.012" (0.4)                           | 0.811"<br>(20.6)             | D44Y         |
| D44CR1RD    | 10(3) A, 250 VAC  | 10 A, 1/2 HP,<br>125/250 VAC<br>6 A, 30 VDC         | 0.187" x<br>0.020" | 144                          | 0.126" (3.2)                  | 0.764" / 0.850"<br>(19.4 / 21.6) | 0.087" (2.2)                   | 0.031" (0.8)                           | 1.34"<br>(34.1)              | D44Y         |
| D44LR1AA    | 10(3) A, 250 VAC  | 10 A, 1/2 HP,<br>125/250 VAC<br>6 A, 30 VDC         | 0.187" x<br>0.020" | 75                           | 0.047" (1.2)                  | 0.559" / 0.599"<br>(14.2 / 15.2) | 0.05" (1.3)                    | 0.012" (0.3)                           | N/A                          | D44X         |
| D44LR1LD    | 10(3) A, 250 VAC  | 10 A, 1/2 HP,<br>125/250 VAC<br>6 A, 30 VDC         | 0.187" x<br>0.020" | 40                           | 0.126" (3.2)                  | 0.551" / 0.646"<br>(14.0 / 16.4) | 0.090" (2.3)                   | 0.031" (0.8)                           | 1.40"<br>(35.6)              | D44X         |
| D44LR1LL    | 10(3) A, 250 VAC  | 10 A, 1/2 HP,<br>125/250 VAC<br>6 A, 30 VDC         | 0.187" x<br>0.020" | 17                           | 0.030" (7.6)                  | 0.472" / .724"<br>(12.0 / 18.4)  | 0.185" (4.7)                   | 0.067" (1.7)                           | 2.75"<br>(69.9)              | D44X         |
| D44LR1MD    | 10(3) A, 250 VAC  | 10 A, 1/2 HP,<br>125/250 VAC<br>6 A, 30 VDC         | 0.187" x<br>0.020" | 25                           | 0.020" (5.1)                  | 0.535" / 0.661"<br>(13.6 / 16.8) | 0.142" (3.6)                   | 0.051" (1.3)                           | 1.58"<br>(40.1)              | D44X         |
| D44LR1ML    | 10(3) A, 250 VAC  | 10 A, 1/2 HP,<br>125/250 VAC<br>6 A, 30 VDC         | 0.187" x<br>0.020" | 10                           | 0.050" (12.7)                 | 0.433" / .763"<br>(11.0 / 19.4)  | 0.311" (7.9)                   | 0.098" (2.5)                           | 2.92"<br>(74.4)              | D44X         |
| D44LR1RA    | 10(3) A, 250 VAC  | 10 A, 1/2 HP,<br>125/250 VAC<br>6 A, 30 VDC         | 0.187" x<br>0.020" | 75                           | 0.047" (1.2)                  | 0.776" / 0.839"<br>(19.7 / 21.3) | 0.039" (1.0)                   | 0.012" (0.4)                           | 0.811"<br>(20.6)             | D44X         |
| D44LR1RD    | 10(3) A, 250 VAC  | 10 A, 1/2 HP,<br>125/250 VAC<br>6 A, 30 VDC         | 0.187" x<br>0.020" | 40                           | 0.126" (3.2)                  | 0.764" / 0.850"<br>(19.4 / 21.6) | 0.087" (2.2)                   | 0.031" (0.8)                           | 1.34"<br>(34.1)              | D44X         |
| D45CR1AA    |   | 15 A, 1/2 HP,<br>125/250 VAC                        | 0.187" x<br>0.020" | 400                          | 0.047" (1.2)                  | 0.559" / 0.599"<br>(14.2 / 15.2) | 0.05" (1.3)                    | 0.012" (0.3)                           | N/A                          | D45Y         |
| D45LR1AA    |   | 15 A, 1/2 HP,<br>125/250 VAC                        | 0.187" x<br>0.020" | 100                          | 0.047" (1.2)                  | 0.559" / 0.599"<br>(14.2 / 15.2) | 0.05" (1.3)                    | 0.012" (0.3)                           | N/A                          | D45X         |
| D45LR1LL    |   | 15 A, 1/2 HP,<br>125/250 VAC                        | 0.187" x<br>0.020" | 22                           | 0.030" (7.6)                  | 0.472" / .724"<br>(12.0 / 18.4)  | 0.185" (4.7)                   | 0.067" (1.7)                           | 2.75"<br>(69.9)              | D45X         |
| D45LR1ML    |   | 15 A, 1/2 HP,<br>125/250 VAC                        | 0.187" x<br>0.020" | 13                           | 0.050" (12.7)                 | 0.433" / .763"<br>(11.0 / 19.4)  | 0.311" (7.9)                   | 0.098" (2.5)                           | 2.92"<br>(74.4)              | D45X         |



# D4 Series

## Ordering Information

| D4            |  | 3   |         | 3       |      | Q                               |                    | 1                     |                        | L             |      | D                      |      |      |      |      |                       |                          |
|---------------|--|---|---------|---------|------|---------------------------------|--------------------|-----------------------|------------------------|---------------|------|------------------------|------|------|------|------|-----------------------|--------------------------|
| Series/Prefix |  |   |         |         |      |                                 |                    |                       |                        |               |      |                        |      |      |      |      |                       |                          |
| Code          | Electrical Rating  |   | SPST NO | SPST NC | SPDT | Operating Force                 | Temperature Rating | Mounting Holes        | Code                   | Terminal Type | Code | Terminal Configuration | Code | Code |      |      | Pivot Position        | Auxiliary Actuator       |
|               | EN61058-1  | UL 1054   |         |         |      |                                 |                    |                       |                        |               |      |                        |      | A    | D    | L    |                       |                          |
| 1             | 0.1(0.5)A, 250 VAC<br>0.5 A, 30 VDC;<br>1 (1) A, 250 VAC | 0.1 A, 125-250 VAC<br>0.5 A, 30 VDC;<br>1 A, 125 VAC    |         |         |      | Standard<br>"Y"<br>Light<br>"X" | T85                | International Version | A                      | Welding       | 1    |                        | AA   |      |      |      | without               |                          |
| 2             | 3(1)A, 250 VAC   | 3 A, 125-250 VAC<br>1/10 HP, 250 VAC                    | 1       | 2       | 3    | Standard<br>"Y"<br>Light<br>"X" | T85                |                       | B                      | Solder short  | 3    |                        | L    | 21,2 | 35,6 | 69,9 | RP                    | straight steel           |
| 3             | 6(2)A, 250 VAC   | 5 A, 125-250 VAC,<br>1/4 HP, 250 VAC                    | 7       | 8       | 9    | Standard<br>"Y"<br>Light<br>"X" | T125               | U.S. Version          | P                      | PCB           | 4    |                        | M    | 25,7 | 40,1 | 74,4 | FP                    | straight stainless steel |
| 4             | 10(3)A, 250 VAC  | 10 A, 125-250 VAC;<br>6A 30 VDC,<br>1/2 HP, 125-250 VAC | G       | H       | M    | Standard<br>"Y"<br>Light<br>"X" | T150               |                       | Q                      | Tab. 4.8x0.8  | 5    |                        | J    | 21,2 | 35,5 | 69,9 | RP                    | straight stainless steel |
| 5             | 16(4) A, 250 VAC   | 15 A, 125-250 VAC<br>1/2 HP, 125-250 VAC                | N       | P       | R    | Standard<br>"Y"<br>Light<br>"X" | T85                | R                     | Tab. 4.8x0.5           | 8             |      | K                      | 25,7 | 40,1 | 74,4 | FP   | with roller           |                          |
| 8             | 21(8) A, 250 VAC   | 21 A, 250 VAC<br>1 HP, 125 VAC;<br>2 HP, 250 VAC        | S       | T       | U    | Standard<br>"Y"<br>Light<br>"X" | T125               | S                     | Solder with Temp. Stop | 9             |      | R                      | 20,6 | 34,1 |      | RP   | with roller           |                          |
|               |  |   | A       | B       | C    | Standard<br>"Y"<br>Light<br>"X" | T150               | V                     | Tab. 6.3x0.8           | A             |      | T                      | 25,1 | 38,5 |      | FP   | with simulated roller |                          |
|               |  |   | J       | K       | L    | Standard<br>"Y"<br>Light<br>"X" |                    | W                     | Screw                  | B             |      | S                      | 20,6 |      |      | RP   | with simulated roller |                          |
|               |  |   | D       | E       | F    | Standard<br>"Y"<br>Light<br>"X" |                    | Y                     | Tab. 6.3x0.8<br>RAST 5 |               |      | U                      | 25,1 |      |      | FP   |                       |                          |
|               |  |   | 4       | 5       | 6    | Standard<br>"Y"<br>Light<br>"X" |                    |                       |                        |               |      |                        |      |      |      |      |                       |                          |

Specifications subject to change without notice

### Mounting — US Version

Recommended mounting screw size: #4-40 Round head with washer. Recommended torque on screw: 60 NCM max.

### Mounting — European Version

Recommended mounting screw size with washer: M3. Recommended torque on screw: 60 NCM max.



### Notes:

- D48 only available as light force
- D45 not VDE approved with terminal code 'R'
- D48 only available with terminal codes 'A', 'S', or 'V'

U.S.-ONLY D4 VERSION DISCONTINUED AND REPLACED WITH GLOBAL VERSION.

<http://switches-sensors.zf.com/us/product/miniature-d4/> FOR PRODUCT INFORMATION.

