

Miniature Snap Switch

Single Pole

D4 Series



Features

- Choice of standard or light operating force
- Long life coil spring mechanism
- RoHS compliant
- Cadmium free
- Various aux actuators
- Various terminal types
- Agency approved extended life versions available

Standard Parts¹ (note "G2" suffix does not affect fit, form or function)

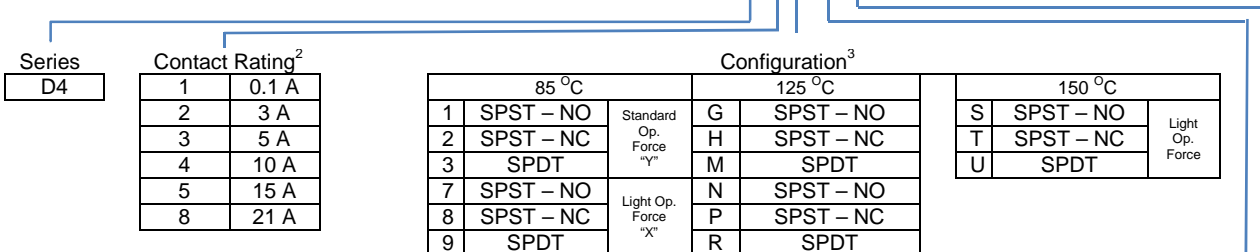
| | | | | | |
|-----------|-----------|-----------|-----------|-----------|-----------|
| D413-R1AA | D429-R1TD | D433-R1AA | D443-R1LD | D449-R1LL | D453-R1RA |
| D413-R1LA | D429-R1AA | D433-R1LD | D443-R1MD | D449-R1MD | D453-R1RD |
| D413-R1LD | D429-R1LD | D433-R1RA | D443-R1RA | D449-R1ML | D459-R1AA |
| D413-R1RA | D429-R1LL | D433-R1RD | D443-R1RD | D449-R1RA | D459-R1LD |
| D419-R1AA | D429-R1MD | D439-R1LL | D449-R1AA | D449-R1RD | D459-R1LL |
| D423-R1RA | D429-R1ML | D439-V1ML | D449-R1LD | D453-B8AA | D459-R1ML |
| D423-R1RD | | D443-R1AA | | D453-R1AA | |

¹The part number configuration matrix below provides details to the part numbers above.

For configurable part numbers that are not listed above, not listed in your region, or for custom part numbers, contact the factory or your distributor. For information on crossing discontinued U.S. only part numbers, see D4 cross-reference chart at www.switches-sensors.zf.com.

Part Number Breakdown

D413-R1AA



²UL AC current rating; see table on reverse for complete details

³D48 only available with light operating force

| | |
|----|--|
| A1 | Welding |
| B8 | Short solder |
| P4 | 1.2 x 0.5 (0.047 x 0.020) PCB, underside* |
| P5 | 1.2 x 0.5 (0.047 x 0.020) PCB, rear* |
| PA | 1.2 x 0.5 (0.047 x 0.020) PCB, housing side* |
| PB | 1.2 x 0.5 (0.047 x 0.020) PCB, cover side* |
| Q1 | 4.8 x 0.8 (0.187 x 0.032) QC, straight* |
| Q3 | 4.8 x 0.8 (0.187 x 0.032) QC, dog leg* |

*not available for D48

**not available for D45 or D48

| Terminal Type mm (inches) | |
|---------------------------|---|
| R1 | 4.8 x 0.5 (0.187 x 0.020) QC, straight* |
| R3 | 4.8 x 0.5 (0.187 x 0.020) QC, dog leg** |
| S1 | Solder with temp stop |
| V1 | 6.3 x 0.8 (0.250 x 0.032) QC, straight |
| V3 | 6.3 x 0.8 (0.250 x 0.032) QC, dog leg |
| W9 | Screw* |
| X5 | 1.5 x 0.8 (0.059 x 0.032) QC, 2.5 mm grid |
| Y5 | 6.3 x 0.8 (0.250 x 0.032) QC, 5 mm grid |

Actuator Type mm (inches)

| Actuation length | | |
|------------------|--------------------------|--------------|
| AA | Button | N/A |
| JA | SS lever, standard ratio | 21.2 (0.835) |
| JD | SS lever, standard ratio | 35.6 (1.4) |
| JL | SS lever, standard ratio | 69.9 (2.75) |
| KA | SS lever, high ratio | 25.7 (1.01) |
| KD | SS lever, high ratio | 40.1 (1.58) |
| KL | SS lever, high ratio | 74.4 (2.93) |
| LA | Lever, standard ratio | 21.2 (0.835) |
| LD | Lever, standard ratio | 35.6 (1.4) |
| LL | Lever, standard ratio | 69.9 (2.75) |

| Actuation length | | |
|------------------|--------------------------------|--------------|
| MA | Lever, high ratio | 25.7 (1.01) |
| MD | Lever, high ratio | 40.1 (1.58) |
| ML | Lever, high ratio | 74.4 (2.93) |
| RA | Roller, standard ratio | 20.6 (0.811) |
| RD | Roller, standard ratio | 34.1 (1.34) |
| SA | Roller, simulated, rear mount | 20.6 (0.811) |
| TA | Roller, high ratio | 25.1 (0.988) |
| TD | Roller, high ratio | 38.6 (1.52) |
| UA | Roller, simulated, front mount | 25.1 (0.988) |

For actuator details, see D4 actuator reference sheet at <http://switches-sensors.zf.com/us/>

www.switches-sensors.zf.com ZF Electronics Systems Pleasant Prairie, LLC ("ZF") acquired the rights to the CHERRY branded switches and sensors in 2008. Although ZF divested its interest in the CHERRY name in 2015, the switches and sensors remain unchanged and are now sold under the ZF brand.



Electrical Specifications – Contact Ratings

| Contact | EN61058 ⁴ | UL1054 |
|---------|---|---|
| 1 | 0.1 (0.5) A, 250 VAC; 0.5 A, 30 VDC; 1 (1) A, 250 VAC | 0.1 A, 125/250 VAC; 0.5 A, 30 VDC; 1 A, 125 VAC |
| 2 | 3 (1) A, 250 VAC | 3 A, 125/250 VAC; 1/10 HP, 250 VAC |
| 3 | 6 (2) A, 250 VAC | 5 A, 125/250 VAC; ¼ HP, 250 VAC |
| 4 | 10 (3) A, 250 VAC | 10 A, 125/250 VAC; 6 A, 30 VDC; ½ HP, 125/250 VAC |
| 5 | 16 (4) A, 250 VAC | 15 A, 125/250 VAC; ½ HP, 125-250 VAC |
| 8 | 21 (8) A, 250 VAC | 21 A, 250 VAC; 1 HP, 125 VAC; 2 HP, 250 VAC |

UL file number E314201

⁴D45 with R1 terminals are not 61508 certified

Environmental and Mechanical Specifications

| | | |
|---|--|---------------------|
| Operating Temperature | -40 °C to 85, 125 or 150 °C (-40 °F to 185, 257 or 302 °F) | |
| Flammability Rating | UL 94V-0 | |
| Operating life – electrical life at rated load, 85 °C | | |
| | Contact | UL1054 ⁵ |
| | 1 | 6,000 |
| | 2 | 6,000 |
| | 3 | 6,000 |
| | 4 | 6,000 |
| | 5 | 6,000 |
| | 7 | 6,000 |
| | EN61058 | |
| | 1 | 50,000 |
| | 2 | 50,000 |
| | 3 | 50,000 |
| | 4 | 50,000 |
| | 5 | 50,000 |
| | 7 | 10,000 |

⁵Extended life available

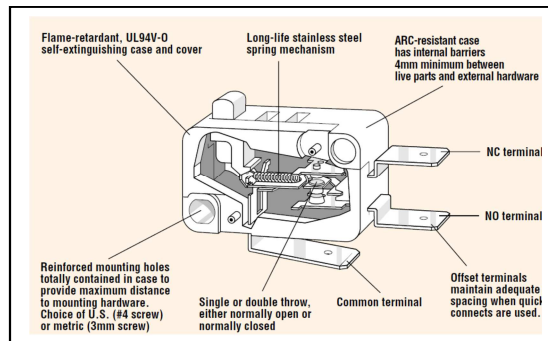
Material Specifications

| | |
|--------------------|---|
| Case | Polyamide (PA) 85 °C, Thermoplastic Polyester (PET) 125 or 150 °C |
| Cover | Polyamide (PA) 85 °C, Thermoplastic Polyester (PET) 125 or 150 °C |
| Actuating Button | Thermoplastic Acetyl (POM) 85 °C, Thermoplastic Polyester (PET) 125 or 150 °C |
| Contacts | Gold Cross Point (D41), Silver (D42), Silver Alloy (D43-D48) |
| Terminals | Brass |
| Auxiliary Actuator | Stainless Steel or Cold-Rolled Steel (Nickel Plated) |
| Moving Blade | Silver Plated Brass |

Environmental Specifications

| | |
|---------------------|--|
| Ambient Temperature | -40 °C to 85 °C/120 °C (-40 °F to 185 °F/248 °F) |
| Operating Force | 45 – 400 cN (model dependent, without actuator) |
| Total Travel | 1.6 mm |
| Ingress Protection | IP40 |

Dimensions mm (inches) and terminal configurations





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- Подбор аналогов;
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- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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