

Miniature Snap Switch

Single Pole D4 Series



Features

- Precise snap action switch
- Long life coil spring mechanism
- Switching current 0.1 to 21 A at 250 VAC
- Temperature range: -40 °C to 85 °C/125°C/150 °C
- PFAS free versions available
- Protection class: IP40
- Standard and light force operating mechanism
- Various aux actuators
- Various terminal types

Standard Parts¹

| | | | | | | |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| D413-R1LD | D413-V3RD | D413-V3AA | D413-R1LA | D413-R1AA | D419-R1AA | D433-R1AA |
| D433-R1RD | D439-R1AA | D439-R1LD | D439-V1ML | D443-R1LD | D443-R1RA | D443-R1RD |
| D449-R1AA | D449-R1LD | D449-R1ML | D449-V3AA | D449-R1RA | D453-V1AA | D453-B8AA |
| D459-V3RA | D459-V3LL | D459-V3LD | D459-V3AA | D459-V3RD | D489-V3AA | |









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:

switches-sensors@zf.com

Order Code Matrix

Numbering Matrix Switch Series D4

| D | | 4 | | | 1 | | | 3 | | | - | V | | | 3 | | | A | | A | |
|------|---|---------|---------|------|-----------------|--------------------|------|------------------------|------|--|--------------------|--------------|------|------|----------------|----------------------------|--|---|--|---|--|
| Code | Electrical Rating according to IEC / UL 61058-1 | Code | | | Operating Force | Temperature Rating | Code | Terminal Type | Code | Terminal Configuration | Auxiliary Actuator | | | | | | | | | | |
| | | SPST NO | SPST NC | SPDT | | | | | | | Code | Length in mm | | | Pivot Position | Auxiliary actuator version | | | | | |
| | | 1 | 2 | 3 | | | A | Welding | 1 |  | AA | A | D | L | HE | without | | | | | |
| 1 | 0.1(0.05) A, 125/250 VAC | 1 | 2 | 3 | Standard "y" | 40T85 | A | Welding | 1 |  | AA | | | | HE | without | | | | | |
| 2 | 3(1) A, 125-250 VAC | 7 | 8 | 9 | Light "x" | 40T125 | B | Solder short | 3 |  | L | 21,2 | 35,6 | 69,9 | HE | straight, steel | | | | | |
| 3 | 6(2) A, 125-250 VAC | G | H | M | Standard "y" | 40T125 | P | PCB | 4 |  | M | 25,7 | 40,1 | 74,4 | VE | straight, steel | | | | | |
| 4 | 10(3) A, 125/250 VAC | N | P | R | Light "x" | 40T150 | Q | Tab 4.8x0.8 | 5 |  | J | 21,2 | 35,6 | 69,9 | HE | straight, stainless steel | | | | | |
| 5 | 16(4) A, 125/250 VAC | S | T | U | Light "x" | 40T150 | R | Ta. 4.8x0.5 | 8 |  | K | 25,7 | 40,1 | 74,4 | VE | straight, stainless steel | | | | | |
| 8 | 21(8) A, 125/250 VAC | | | | | | S | Solder with Temp. Stop | A |  | R | 20,6 | 34,1 | | HE | with roller | | | | | |
| | | | | | | | V | Tab 6.3x0.8 | B |  | T | 25,1 | 38,6 | | VE | with roller | | | | | |
| | | | | | | | X | RAST 2.5 | G | Special designs | S | 20,6 | | | HE | with simulated roller | | | | | |
| | | | | | | | Y | Tab 6.3x0.8 RAST 5 | | | U | 25,1 | | | VE | with simulated roller | | | | | |

Special designs G: The last two digits are identified from AA, AB, etc. to ZZ.



Electrical Specifications – Contact Ratings

| Contact | IEC 61058-1 / UL 61058-1 | Electrical life 40T85 | Electrical life 40T125/40T150 |
|---------|---------------------------|-----------------------|-------------------------------|
| D41 | 0.1 (0.05) A, 125/250 VAC | 50,000 | 50,000 |
| D42 | 3 (1) A, 125/250 VAC | 50,000 | 50,000 |
| D43 | 6 (2) A, 125/250 VAC | 50,000 | 50,000 |
| D44 | 10 (3) A, 125/250 VAC | 50,000 | 50,000 |
| D45 | 16 (4) A, 125/250 VAC | 50,000 | 10,000 |
| D48 | 21 (8) A, 125/250 VAC | 10,000 | 10,000 |

UL file number E314201

⁴D45 with R1 terminals are not IEC / UL 61058-1 certified

Environmental and Mechanical Specifications

| | |
|-------------------|--|
| Operating force | 45 – 400 cN (model dependent, without actuator, lower forces possible) |
| Mechanical life | up to 10 M cycles (button material POM) / up to 500 K cycles (button material PET) |
| Temperature range | -40 °C to 85 °C/125°C/150 °C |
| Protection class | IP40 |

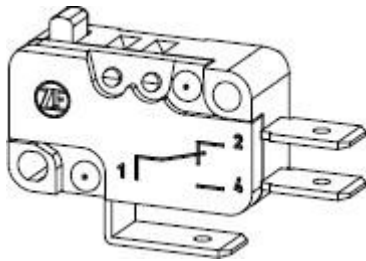
Material Specifications

| | |
|--------------------|--|
| Housing / Cover | PA6 (UL 94 V-0) 85 °C, PET (UL 94 V-0) 125 °C / 150 °C |
| Actuator | POM (UL 94 HB) 85 °C, PET (UL 94 V-0) 125°C / 150 °C |
| Contacts | AuAgPt (Crosspoint), Ag, AgNi |
| Terminals | CuZn, Cu |
| Auxiliary Actuator | Nickel-plated steel, stainless steel |

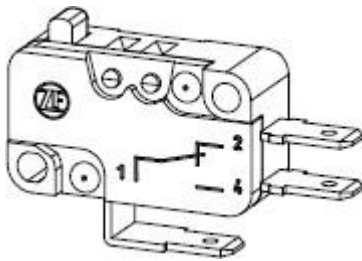
Dimensions (mm) and terminal configurations

Terminals

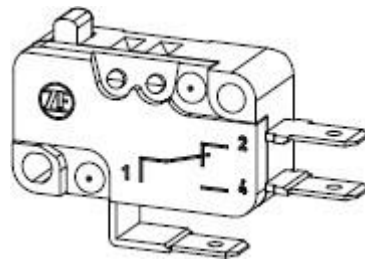
V1



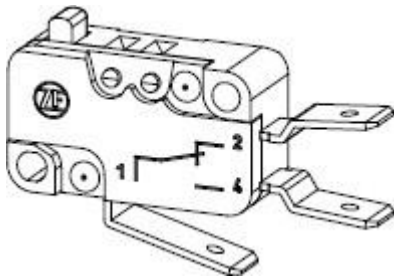
Q1



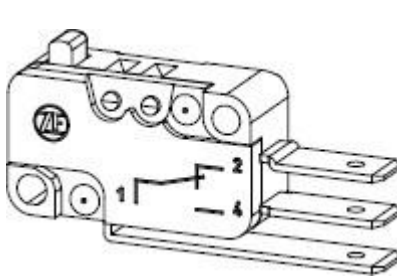
R1



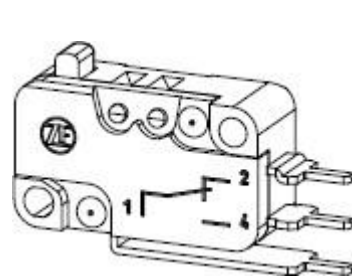
V3



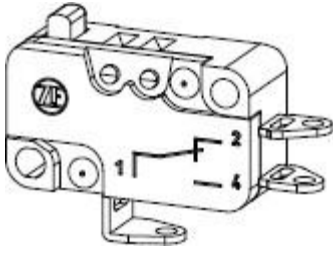
Y5



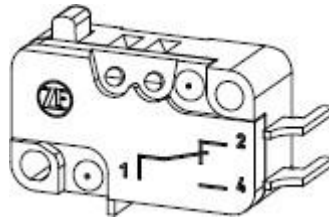
X5



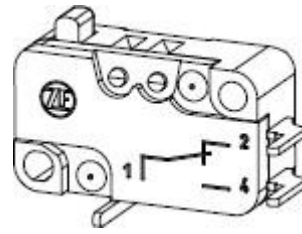
S1



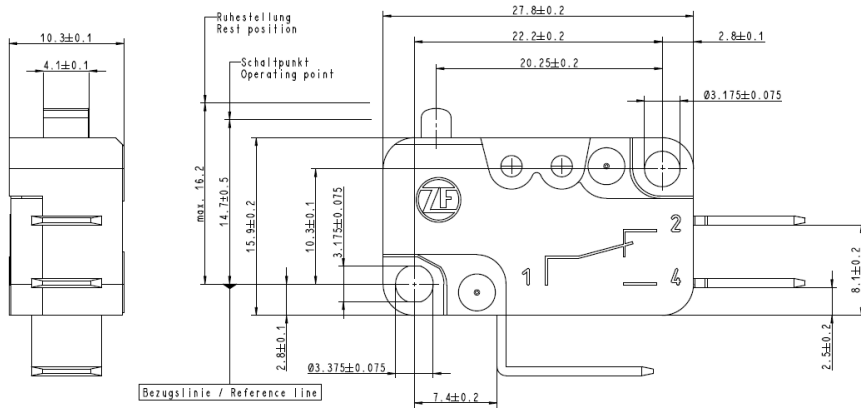
PA



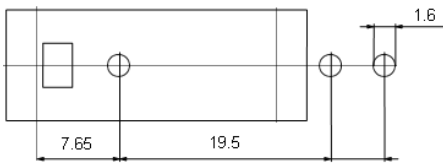
PB



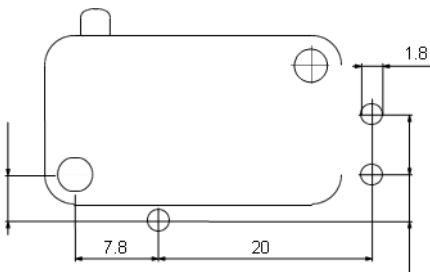
Dimensions



Drilling Pattern



PCB bottom side 1.3 x 0.5 mm



PCB case side 1.3 x 0.8 mm

PCB cover side (mirror-inverted) 1.3 x 0.8 mm

