

# 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
- Protection class: IP40
- Standard and light force operating mechanism
- Various aux actuators
- Various terminal types

### Standard Parts<sup>1</sup>

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	

<sup>1</sup>The 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](mailto:switches-sensors@zf.com)

### Order Code Matrix

#### Numbering Matrix Switch Series D4

D		4			1			3			-			V			3			A			A		
Code	Code									Code	Terminal Type	Code	Terminal Configuration	Auxiliary Actuator											
	Contact Configuration			Operating Force	Temperature Rating	Code	Terminal Configuration	Length in mm						Pivot Position	Auxiliary actuator version										
	SPST NO	SPST NC	SPDT					A	D							L									
1	0.1	0.05	A	125/250	VAC			Standard "Y"	40T85	A	Welding	1		AA											without
2	3(1)	A	125-250	VAC	Light "X"	40T125	B	Solder short	3		L	21,2	35,6	69,9	HE	straight, steel									
3	6(2)	A	125-250	VAC	Standard "Y"	40T150	P	PCB	4		M	25,7	40,1	74,4	VE	straight, steel									
4	10(3)	A	125/250	VAC	Light "X"		Q	Tab 4.8x0.8	5		J	21,2	35,6	69,9	HE	straight, stainless steel									
5	16(4)	A	125/250	VAC	Light "X"		R	Ta. 4.8x0.5	8		K	25,7	40,1	74,4	VE	straight, stainless steel									
8	21(8)	A	125/250	VAC	Light "X"		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

<sup>4</sup>D45 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

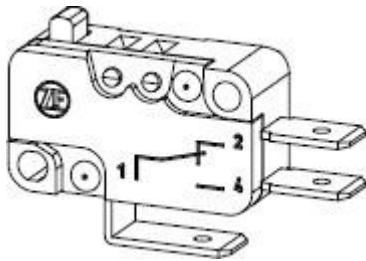
## Material Specifications

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

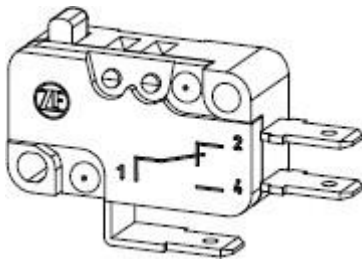
## Dimensions (mm) and terminal configurations

### Terminals

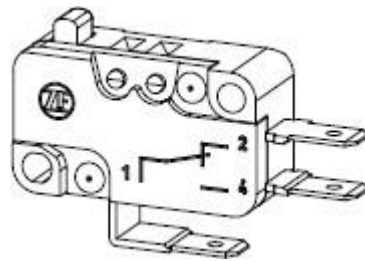
V1



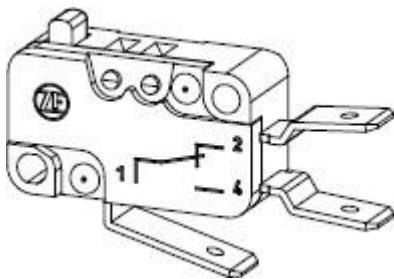
Q1



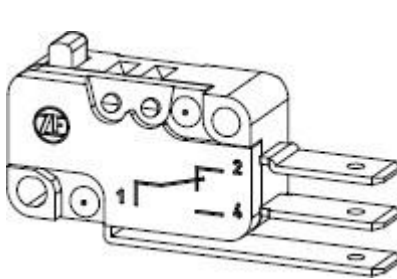
R1



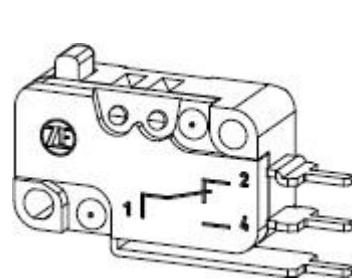
V3



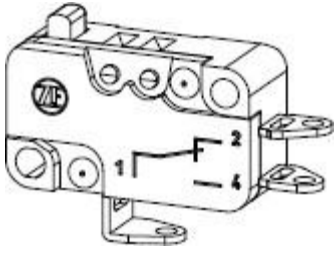
Y5



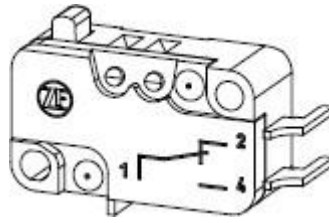
X5



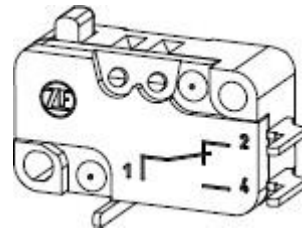
S1



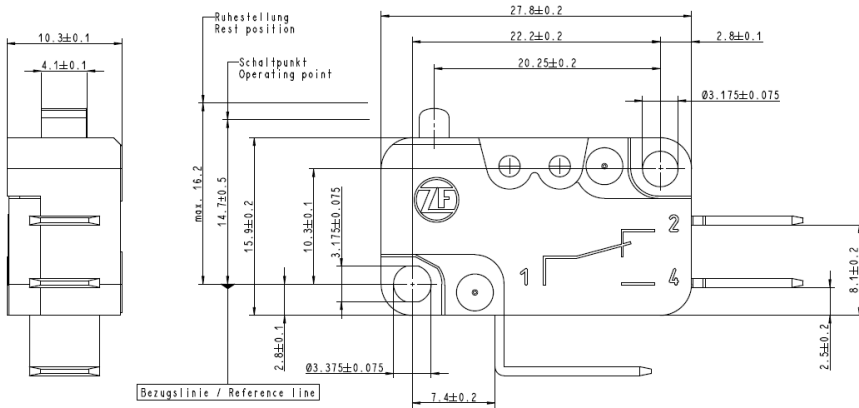
PA



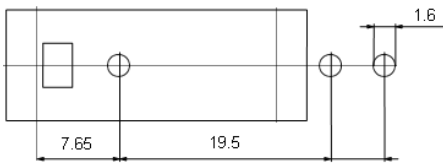
PB



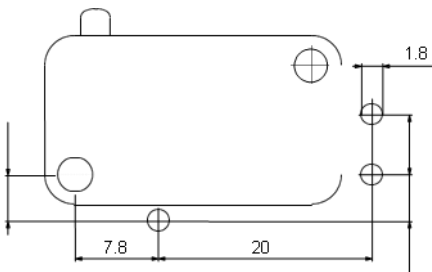
### Dimensions



### 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

