

# Sealed Subminiature Snap Switch

## Single Pole

### DC Series



#### Features

- Enclosed switch complying with IP6K7
- Models available for operating temperature up to 120 °C
- Various contact materials available
- RoHS compliant
- Silicon-free version available
- Various aux actuators (can be retrofitted)
- Two mounting positions
- Mechanical life minimum 1,000,000 operations
- Rated for currents up to 10.1 A at 250 VAC

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

DC1C-A1AA  
DC1C-A1LB  
DC1C-A1RB

DC2C-A1AA  
DC2C-A1LB  
DC2C-A1RB

DC3C-A1AA  
DC3C-A1LB  
DC3C-A1RB

<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.

#### Part Number Breakdown

DC1C-A1AA

| Series | Contact Rating <sup>2</sup>        | Configuration                                                                           | Terminal Type millimeters (inches)                                                                                                                                                                                                                                                                                                                                   | Terminal Configuration                                                                                                                                                                                                                                                              |
|--------|------------------------------------|-----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DC     | 1 5 Amp<br>2 10.1 Amp<br>3 0.1 Amp | 120 °C<br>A SPST NO<br>B SPST NC<br>C SPDT<br>85 °C<br>E SPST NO<br>F SPDT NC<br>G SPDT | A Solder, short<br>B 0.5 (0.02) leads, no UL<br>C 0.75 (0.03) leads, no UL<br>H 1.2 x 0.5 (0.05 x 0.02) PCB<br>K 0.5 x 0.5 (0.02 x 0.02) PCB<br>L 2.8 x 0.5 (0.11 x 0.02) QC<br>N Without leads (Type B)<br>P Without leads (Type A)<br>Q Without leads (No cutout)<br>Non-European versions<br>D Leads, 18 AWG (UL)<br>E Leads, 16 AWG (UL)<br>M Leads, 20 AWG (UL) | Term config 1 only<br>105 °C, DC3 only<br>105 °C only<br>Term configs 1 only<br>Term configs 1, 6, 7, 9 only<br>Term config 1 only<br>Term configs 3, 4 only<br>Term configs 3, 4 only<br>DC 3 only<br>105 °C, term config 5, DC1, DC3 only<br>105 °C only<br>105 °C, DC1, DC3 only |
|        |                                    |                                                                                         |                                                                                                                                                                                                                                                                                                                                                                      | 1 30° twisted<br>3 Leads on actuator side<br>4 Leads opposite actuator<br>5 Leads attached to underside<br>6 PCB terms – right hand side<br>7 PCB terms – left hand side<br>8 PCB terms – right hand side w/location pins<br>9 PCB terms – left hand side w/location pins           |
|        |                                    |                                                                                         |                                                                                                                                                                                                                                                                                                                                                                      | Actuator Type<br>AA Spherical-head, no auxiliary actuator<br>For others, see actuator table at <a href="http://switches-sensors.zf.com/us/">http://switches-sensors.zf.com/us/</a>                                                                                                  |

<sup>2</sup>UL current rating; see table below for complete details

#### Electrical Specifications – Contact Ratings

| Contact | EN61058             | UL1054                                           |
|---------|---------------------|--------------------------------------------------|
| 1       | 6 A, 250 VAC        | 5 A, 125/250 VAC; 1 A, 48 VDC                    |
| 2       | 10 (1.5) A, 250 VAC | 10.1 A, 125/250 VAC; ¼ HP, 125 VAC               |
| 3       | 0.1 A, 250 VAC      | 0.1 A, 125/250 VAC; 0.1 A, 30 VDC; 0.3 A, 60 VDC |
| 4       | 3 A, 250 VAC        | 3 A, 125/250 VAC; 1 A, 48 VDC                    |

UL file number E314201



## Mechanical Specifications

|                                 |                                                |         |                          |
|---------------------------------|------------------------------------------------|---------|--------------------------|
| Contact Gap                     | < 3 mm ( $\mu$ )                               |         |                          |
| Operating Force                 | 50– 340 cN (model dependent, without actuator) |         |                          |
| Total Travel (without actuator) | 1.6 mm                                         |         |                          |
| Operating life                  |                                                |         |                          |
|                                 | Operation Cycles                               |         |                          |
|                                 | Contact                                        | EN61058 | UL1054                   |
| 1                               |                                                | 10,000  | 6,000 (15,000 @ 48 VDC)  |
| 2                               |                                                | 10,000  | 6,000                    |
| 3                               |                                                | 50,000  | 100,000 (6,000 @ 60 VDC) |
| 4                               |                                                | 50,000  | 6,000 (15,000 @ 48 VDC)  |
|                                 |                                                |         | Mechanical Life          |
|                                 |                                                |         | 15,000,000               |
|                                 |                                                |         | 10,000,000               |
|                                 |                                                |         | 15,000,000               |
|                                 |                                                |         | 15,000,000               |

## Material Specifications

|                      |                                                                                                                 |
|----------------------|-----------------------------------------------------------------------------------------------------------------|
| Base                 | PET (UL 94 V-0)                                                                                                 |
| Cover                | PBT (UL 94 V-0); PET (UL 94 V-0)                                                                                |
| Actuator             | PBT (UL 94 V-0) 120 °C, POM (UL 94 HB) 85 °C                                                                    |
| Contacts             | AgSnO <sub>2</sub> , AgNi, AuAgPt (Crosspoint)                                                                  |
| Terminals            | CuZn (silver-plated)                                                                                            |
| Auxiliary Actuator   | Stainless Steel or plastic                                                                                      |
| Switching parameters | Complete chart available at <a href="http://switches-sensors.zf.com/us/">http://switches-sensors.zf.com/us/</a> |

## Environmental Specifications

|                     |                                                                                                                                        |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| Ambient Temperature | -40 °C to 85 / 120 °C (-40 °F to 185 / 248 °F) without wire leads<br>-40 °C to 85 / 105 °C (-40 °F to 185 / 221 °F) without wire leads |
| Ingress Protection  | IP67                                                                                                                                   |

## Dimensions mm and Terminal Options

