The 2S family of sub-miniature toggle switches is composed of three switch series; the 2S1-Series toggle switch, the 2SS-Series sealed toggle switch, and the 2SM-Series surface mount sealed sub-miniature toggle switch. All of these series offer a variety of ratings, circuits, contact materials, terminal platings, and actuator types.

**Product Highlights:**
- IP67 Sealing
- 6 Actuator Options
- Surface, Thru Hole or Snap-in Mounting
- Dry-Circuit thru 3A 125VAC Ratings
- UL, CSA Approvals

**Typical Applications:**
- Telecommunications
- Instrumentation
- Networking
- Medical Equipment

**Resources:**
- Configure a Complete Part
- Download CAD & Sales Drawing
### Electrical
- **Contact Rating**: refer to ordering scheme
- **Electrical Life**: 30,000 make & break cycles @ full load
- **Contact Resistance**: 20 mΩ max. initial @ 2-4 VDC
- **100mA for both silver & gold plated contacts**
- **Insulation Resistance**: 1000 MΩ min.
- **Dielectric Strength**: 1500 Volts RMS @ sea level

### Physical
- **Operating Temperature**: -30°C to +85°C
- **Index of Protection**: 2SS & 2SM-Series: IP67
- **Solder Heat Resistance**: MIL-STD-202, Method 210
- **Actuator Travel**: 25°

### Material
- **Case**: all UL94 V-0
  - **2S1-Series**: Dialy phthalate (DAP)
  - **2SS-Series**: Glass filled nylon 6/6, flame retardant, heat stabilized
  - **2SM-Series**: Glass filled nylon 6/6, flame retardant, heat stabilized
- **Rocker**: Brass, chrome plated.
- **Bushing**: Brass, chrome plated or nylon, internal o-ring sealed
- **2SS-Series**: Brass, nickel plated
- **2SS-Series**: Glass filled nylon 6/6, flame retardant, heat stabilized (UL 94V-0)
- **2SM-Series**: Glass filled nylon 6/6, flame retardant, heat stabilized (UL 94V-0)
- **Housing**: Stainless Steel
- **Switch Support**: Brass, tin plated
- **Terminal Seal**: Epoxy

---

#### 2SS - MSP 1 - T1 - B4 - M6 G E

**1 SERIES**
- **2SS**: Sealed Sub-Miniature Toggle Switch

**2 POLES**
- **MSP**: Single pole - uses terminals 1, 2 & 3
- **MDP**: Double pole - uses terminals 1, 2, 3, 4, 5 & 6

**3 CIRCUIT**
- ( ) - momentary
- Position: 1, 2, 3
- Connected Terminals: 2-3, 5-6
- ON: NONE ON
- OFF: (ON)
- 4: (ON) OFF
- 5: ON (ON)

**4 ACTUATOR STYLE / LENGTH**
- **T1**: Round toggle .421" [10.70 mm]
- **T2**: Round toggle .240" [6.10 mm]
- **T3**: Round toggle .342" [8.70 mm]
- **T4**: Round toggle .551" [14.00 mm]
- **P1**: ESD resistant toggle .425" [10.80 mm]
- **P2**: ESD resistant toggle .268" [6.80 mm]
- **P3**: ESD resistant toggle .244" [6.20 mm]
- **P4**: ESD resistant toggle .291" [7.40 mm]

**5 BUSHING**
- **B1**: Threaded
- **B4**: Unthreaded

**6 TERMINATION**
- **M1**: Solder Lug
- **M2**: PCB
- **M6**: PC Mount, 90° horizontal
- **M61**: Snap-In, U bracket, 90° horizontal
- **M7**: PC Mount, 90° vertical
- **M71**: Snap-In, U bracket, 90° horizontal
- **VS2**: PC Mount, U bracket
- **VS21**: Snap-In, U bracket

**7 CONTACTS / TERMINALS**
- **Contact Material**
- **Terminal Plating**
- **Rating**
- **Approvals**
- **G**: silver 1 gold over silver 3A 125VAC or 28VDC, 1.5A 250VAC IP67
- **K**: gold 2 tin 3 0.4VA max 20V max (AC/DC) IP67
- **P**: silver 1 tin 3 3A 125VAC or 28VDC, 1.5A 250VAC IP67
- **R**: gold 2 0.4VA max 20V max (AC/DC) IP67

**8 EPOXY SEAL**
- **E**: Epoxy Seal 0 without Epoxy Seal

*Manufacturer reserves the right to change product specification without prior notice.*

---

Email: sales@carlingtech.com  Application Support: team2@carlingtech.com
Phone: (860) 793–9281  Fax: (860) 793–9231  www.carlingtech.com
2SS-Series Dimensional Specifications: in. [mm]

**Actuator Options**

- **T1**
  - Actuator Options
  - EPOXY SEAL
  - .098 Dia (2.50)
  - THK .020 (0.50)
  - M2 PC Thru-Hole
  - M1 STD. Solder Lug
  - P1 Plastic Toggle
  - T1

- **T2**
  - Actuator Options
  - EPOXY SEAL
  - .098 Dia (2.50)
  - THK .020 (0.50)
  - M2 PC Thru-Hole
  - M1 STD. Solder Lug
  - P2 Plastic Toggle
  - T2

- **T3**
  - Actuator Options
  - EPOXY SEAL
  - .094 Dia (2.40)
  - THK .020 (0.50)
  - M2 PC Thru-Hole
  - M1 STD. Solder Lug
  - P3 Plastic Toggle
  - T3

- **T4**
  - Actuator Options
  - EPOXY SEAL
  - .094 Dia (2.40)
  - THK .020 (0.50)
  - M2 PC Thru-Hole
  - M1 STD. Solder Lug
  - P4 Plastic Toggle
  - T4

**Bushing Options**

- **B1**
  - Actuator Options
  - EPOXY SEAL
  - .177 Dia (4.50)
  - THK .020 (0.50)
  - M2 PC Thru-Hole
  - M1 STD. Solder Lug
  - B1

- **B4**
  - Actuator Options
  - EPOXY SEAL
  - .177 Dia (4.50)
  - THK .020 (0.50)
  - M2 PC Thru-Hole
  - M1 STD. Solder Lug
  - B4

**Termination Options**

- **M1 STD. Solder Lug**
  - SP
  - DP
  - EPOXY SEAL
  - .098 Dia (2.50)
  - THK .020 (0.50)

- **M2 PC Thru-Hole**
  - SP
  - EPOXY SEAL
  - .094 Dia (2.40)
  - M2 PC Thru-Hole
  - P.C.MOUNTING

- **M6 Single Pole**
  - Actuator Options
  - EPOXY SEAL
  - .177 Dia (4.50)
  - THK .020 (0.50)

* B4 bushing shown. Subtract 2.55mm from toggle length for B1 bushing.

* Subtract 2.55mm from toggle length for B1 bushing.
2SS-Series Dimensional Specifications: in. [mm]

**Snap-In Termination Options**

<table>
<thead>
<tr>
<th>Component</th>
<th>Dimensional Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>M6 Double Pole</td>
<td><img src="image" alt="Diagram" /></td>
</tr>
<tr>
<td>M7 Single Pole</td>
<td><img src="image" alt="Diagram" /></td>
</tr>
<tr>
<td>M7 Double Pole</td>
<td><img src="image" alt="Diagram" /></td>
</tr>
<tr>
<td>VS2 Single Pole</td>
<td><img src="image" alt="Diagram" /></td>
</tr>
<tr>
<td>VS2 Double Pole</td>
<td><img src="image" alt="Diagram" /></td>
</tr>
</tbody>
</table>

* PC Mounting for M61, M71, VS21 refer to M6, M7, VS2 respectively.
2S1-Series Dimensional Specifications: in. [mm]

**Single Pole**

- Actuator Options
  - T1
  - T2
  - T3
  - T4

- Bushing Options
  - B1 Threaded
  - B2 Non-Threaded
  - B5 Threaded
  - B6 Non-Threaded
  - B7 Threaded
  - B8 Non-Threaded

- Panel Mounting
  - 10-48 INCH BUSHING
  - 1/4 INCH BUSHING

- Termination Options
  - M1 Standard Solder Lug
  - M2 PC Thru-Hole
  - M1 Standard Solder Lug
  - M2 PC Thru-Hole
  - M6 Single Pole
  - P.C.MOUNTING
2S1-Series Dimensional Specifications: in. [mm]

Termination Options

M6 Double Pole

M7 Single Pole

M7 Double Pole

VS2-VS3 Single Pole

VS2-VS3 Double Pole

P.C. MOUNTING

P.C. MOUNTING

P.C. MOUNTING

P.C. MOUNTING

Snap-In Termination Options

M61

M71

VS21

* PC Mounting for M61, M71, VS21 refer to M6, M7, VS2 respectively.
2SM-Series Dimensional Specifications: in. [mm]

K6 Single Pole

L6 Single Pole

M6 Single Pole

M7 Single Pole

S6 Single Pole

Actuator Options

T1

P1 Plastic Toggle

P2 Plastic Toggle

P3 Plastic Toggle

P4 Plastic Toggle

* Available with L6, S6, K6, M7 terminals only.
Authorized Sales Representatives and Distributors

Click on a region of the map below to find your local representatives and distributors or visit www.carlingtech.com/findarep.

About Carling

Founded in 1920, Carling Technologies is a leading manufacturer of electrical and electronic switches and assemblies, circuit breakers, electronic controls, power distribution units, and multiplexed power distribution systems. With four ISO registered manufacturing facilities and technical sales offices worldwide, Carling Technologies Sales, Service and Engineering teams do much more than manufacture electrical components, they engineer powerful solutions! To learn more about Carling please visit www.carlingtech.com/company-profile.

To view all of Carling’s environmental, quality, health & safety certifications please visit www.carlingtech.com/environmental-certifications
Worldwide Headquarters
Carling Technologies, Inc.
60 Johnson Avenue, Plainville, CT 06062
Phone: 860.793.9281  Fax: 860.793.9231
Email: sales@carlingtech.com

Northern Region Sales Office: nrsm@carlingtech.com
Southeast Region Sales Office: sersm@carlingtech.com
Midwest Region Sales Office: mrsm@carlingtech.com
West Region Sales Office: wrsm@carlingtech.com
Latin America Sales Office: larasm@carlingtech.com

Asia-Pacific Headquarters
Carling Technologies, Asia-Pacific Ltd.,
Suite 1607, 16/F Tower 2, The Gateway,
Harbour City, 25 Canton Road,
Tsimshatsui, Kowloon, Hong Kong
Phone: Int + 852-2737-2277  Fax: Int + 852-2736-9332
Email: sales@carlingtech.com.hk

Shenzhen, China: shenzhen@carlingtech.com
Shanghai, China: shanghai@carlingtech.com
Pune, India: india@carlingtech.com
Kaohsiung, Taiwan: taiwan@carlingtech.com
Yokohama, Japan: japan@carlingtech.com

Europe | Middle East | Africa Headquarters
Carling Technologies LTD
4 Airport Business Park, Exeter Airport,
Clyst Honiton, Exeter, Devon, EX5 2UL, UK
Phone: Int + 44 1392.364422  Fax: Int + 44 1392.364477
Email: ltd.sales@carlingtech.com

Germany: gmbh@carlingtech.com
France: sas@carlingtech.com

Carling Technologies®

www.carlingtech.com