

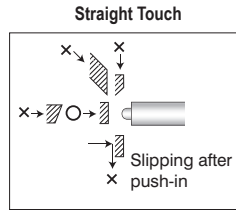


# Precision Limit Switches

## Precision Touch Limit Switches

### Features

- Slim design (from M5) allows side-by-side installation
- Long-stroke and water-resistant models available
- 5 micron (µm) repeat accuracy
- Stainless steel housing
- Metal bearing
- Straight-touch and straight needle touch available



O indicates correct target approach and orientation.  
X indicates approach and orientation that should be avoided.



**CSJ055A-L**



**CS067A-CL**

### Precision Touch Limit Switches Selection Chart

| Part Number                   | Price   | Drawing Link        | Actuator/ Head Type*         | Barrel Type | Barrel Diameter/ Thread* | Stroke | Switching Output | Contact Force | Connection Type   |
|-------------------------------|---------|---------------------|------------------------------|-------------|--------------------------|--------|------------------|---------------|-------------------|
| Straight Touch                |         |                     |                              |             |                          |        |                  |               |                   |
| <a href="#">CSJ055A</a>       | \$45.00 | <a href="#">PDF</a> | Ø 2mm plunger, SR 1.5 mm     | Threaded    | M5×0.5                   | 2.8mm  | (1) N.O.         | 1N            | Cable, 3m [9.8ft] |
| <a href="#">CSJ055A-L</a>     | \$54.00 | <a href="#">PDF</a> | Ø 2mm plunger, SR 1.5mm      |             |                          | 2.8mm  | (1) N.O.         | 1N            |                   |
| <a href="#">CSJS50A</a>       | \$45.00 | <a href="#">PDF</a> | Ø 2mm plunger SR 1.5mm       | Smooth      | Ø 5mm                    | 2.8mm  | (1) N.O.         | 1N            |                   |
| <a href="#">CSJS50A-L</a>     | \$54.00 | <a href="#">PDF</a> | Ø 2mm plunger, SR 1.5mm      |             | Ø 5mm                    | 2.8mm  | (1) N.O.         | 1N            |                   |
| <a href="#">CS065A-L</a>      | \$60.00 | <a href="#">PDF</a> | Ø 2mm plunger, SR 1.5mm      | Threaded    | M6×0.5                   | 2.8mm  | (1) N.O.         | 1N            |                   |
| <a href="#">CSS60A-L</a>      | \$56.00 | <a href="#">PDF</a> | Ø 2mm plunger, SR 1.5mm      | Smooth      | Ø 6mm                    | 2.8mm  | (1) N.O.         | 1N            |                   |
| <a href="#">CSS60B-L</a>      | \$56.00 | <a href="#">PDF</a> | Ø 2mm plunger, SR 1.5mm      |             |                          | 2.8mm  | (1) N.C.         | 1N            |                   |
| <a href="#">CS067A</a>        | \$51.00 | <a href="#">PDF</a> | Ø 2mm plunger, SR 1.5mm      | Threaded    | M6×0.75                  | 2.8mm  | (1) N.O.         | 1N            |                   |
| <a href="#">CS067A-B</a>      | \$55.00 | <a href="#">PDF</a> | Ø 2mm plunger, Ø 4mm flat    |             |                          | 2.8mm  | (1) N.O.         | 1N            |                   |
| <a href="#">CS067A-L</a>      | \$60.00 | <a href="#">PDF</a> | Ø 2mm plunger, SR 1.5mm      |             |                          | 2.8mm  | (1) N.O.         | 1N            |                   |
| <a href="#">CS067B</a>        | \$51.00 | <a href="#">PDF</a> | Ø 2mm plunger, SR 1.5mm      |             |                          | 2.8mm  | (1) N.C.         | 1N            |                   |
| <a href="#">CS067B-L</a>      | \$60.00 | <a href="#">PDF</a> | Ø 2mm plunger, SR 1.5mm      |             |                          | 2.8mm  | (1) N.C.         | 1N            |                   |
| <a href="#">CS067A-BL</a>     | \$65.00 | <a href="#">PDF</a> | Ø 2mm plunger, Ø 4mm flat    |             |                          | 2.8mm  | (1) N.O.         | 1N            |                   |
| <a href="#">CSS80A-L</a>      | \$56.00 | <a href="#">PDF</a> | Ø 3.5mm plunger, SR 3mm      | Smooth      | Ø 8mm                    | 2.8mm  | (1) N.O.         | 1N            |                   |
| <a href="#">CS087A-L</a>      | \$60.00 | <a href="#">PDF</a> | Ø 3.5mm plunger, SR 3mm      | Threaded    | M8×0.75                  | 2.8mm  | (1) N.O.         | 1N            |                   |
| <a href="#">CSK087A</a>       | \$58.00 | <a href="#">PDF</a> | Ø 3.5mm plunger, SR 3mm      |             |                          | 5mm    | (1) N.O.         | 1N            |                   |
| <a href="#">CSK087A-L</a>     | \$67.00 | <a href="#">PDF</a> | Ø 3.5mm plunger, SR 3mm      |             |                          | 5mm    | (1) N.O.         | 1N            |                   |
| <a href="#">CSK087B-L</a>     | \$67.00 | <a href="#">PDF</a> | Ø 3.5mm plunger, SR 5mm      |             |                          | 5mm    | (1) N.C.         | 1N            |                   |
| <a href="#">CSP087A-AL</a>    | \$78.00 | <a href="#">PDF</a> | Ø 5.5mm plunger, 2mm round   |             |                          | 2.8mm  | (1) N.O.         | 1N            |                   |
| <a href="#">CSP087B-AL</a>    | \$78.00 | <a href="#">PDF</a> | Ø 5.5mm plunger, 2mm round   |             |                          | 2.8mm  | (1) N.C.         | 1N            |                   |
| Straight Needle Contact Touch |         |                     |                              |             |                          |        |                  |               |                   |
| <a href="#">CSJ055A-CL</a>    | \$60.00 | <a href="#">PDF</a> | needle plunger, 1.5mm flat   | Threaded    | M5×0.5                   | 2.8mm  | (1) N.O.         | 1N            | Cable, 3m [9.8ft] |
| <a href="#">CS065A-CL</a>     | \$67.00 | <a href="#">PDF</a> | needle plunger, 1.5mm flat   |             | M6×0.5                   | 2.8mm  | (1) N.O.         | 1N            |                   |
| <a href="#">CS067A-CL</a>     | \$83.00 | <a href="#">PDF</a> | needle plunger, 1.5mm flat   |             | M6×0.75                  | 2.8mm  | (1) N.O.         | 1N            |                   |
| Spring Plunger                |         |                     |                              |             |                          |        |                  |               |                   |
| <a href="#">SP080A-L</a>      | \$51.00 | <a href="#">PDF</a> | Ø 2.5mm plunger<br>SR 1.25mm | Threaded    | M8×1.25 mm               | 3mm    | (1) N.O.         | 8N            | Cable 2m [6.56ft] |

\* Ø = diameter, SR = surface radius

-L: LED indicator (mounted in cable 120mm from the switch)



# Precision Limit Switches

**CSJ055A****CSJ055A-L****CSJS50A****CSJS50A-L****CS065A-L****CSS60A-L****CSS60B-L****CS067A****CS067A-B****CS067A-L****CS067B****CS067B-L****CS067A-BL****CSS80A-L****CS087A-L****CSK087A****CSK087A-L****CSP087A-AL****CSJ055A-CL****CS065A-CL****CS067A-CL****SP080A-L**



# Precision Limit Switches

| Precision Touch Limit Switches Specifications                       |                                                                                                    |       |     |     |       |                                       |
|---------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|-------|-----|-----|-------|---------------------------------------|
| Type                                                                | Straight Touch Switches                                                                            |       |     |     |       |                                       |
| Series                                                              | CS                                                                                                 | CSJ   | CSS | CSK | CSP   | SP                                    |
| Environmental                                                       |                                                                                                    |       |     |     |       |                                       |
| Degree of Protection                                                | IP65                                                                                               |       |     |     | IP67  | IP40                                  |
| Temperature Range                                                   | Operating: 0 to 80°C [32 to176°F] (Ice-free)                                                       |       |     |     |       |                                       |
| Mechanical Ratings                                                  |                                                                                                    |       |     |     |       |                                       |
| Enclosure Material                                                  | Stainless Steel                                                                                    |       |     |     |       |                                       |
| Pretravel                                                           | 0.3 mm                                                                                             |       |     |     |       | 2.2 mm                                |
| Torque (for nuts on threaded barrels, set screws on smooth barrels) | 4 N•m                                                                                              | 2 N•m | N/A | N/A | 7 N•m | L1 10N•m<br>L2 5•Nm                   |
| Vibration                                                           | 10–55Hz total amplitude 1.5 for X, Y, Z each direction                                             |       |     |     |       |                                       |
| Shock                                                               | 300 m/s² for X, Y, Z each direction                                                                |       |     |     |       |                                       |
| Repeat Accuracy                                                     | 5 micron (µm) *                                                                                    |       |     |     |       | Both On-Off, Off-On<br>0.01mm (range) |
| Recommended Minimum Operating Speed                                 | 50mm (1.96 in)/minute                                                                              |       |     |     |       |                                       |
| Electrical Ratings                                                  |                                                                                                    |       |     |     |       |                                       |
| Contact Life                                                        | 10 million operations                                                                              |       |     |     |       | 3 million (spring)                    |
| Contact Voltage                                                     | 5–24VDC                                                                                            |       |     |     |       |                                       |
| Steady Current Rating                                               | 10mA or less                                                                                       |       |     |     |       |                                       |
| Max In-rush Current Rating                                          | 20mA without LED indicator, 10mA with LED indicator                                                |       |     |     |       |                                       |
| Connection Type                                                     | Cable: 3m (2m for SP series) Oil resistant Ø2.8/ 2 cores, Tensile strength 30N, minimum bending R7 |       |     |     |       |                                       |
| Indicating                                                          | -L models: LED indicator (mounted in cable 120mm from the switch)                                  |       |     |     |       |                                       |

\* At operating speed 50-200 mm/minute. Operating speed slower than 10 mm/min is not recommended.

## Circuit Diagrams

| Without LED                   | With LED (-L models)          |
|-------------------------------|-------------------------------|
| <p>Normally open (N.O.)</p>   | <p>Normally open (N.O.)</p>   |
| <p>Normally closed (N.C.)</p> | <p>Normally closed (N.C.)</p> |