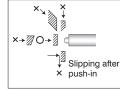
METROL Precision Limit Switches

Low Contact Force Limit Switches: CSFN / CS / CSJ

Features

- 0.1N and 0.5N contact force
- + 5 micron (µm) and 10 micron (µm) repeat accuracy
- Stainless steel housing
- Metal bearing
- Straight-touch and straight needle touch available



Low Contact Force

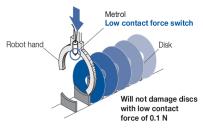
Straight Touch

O indicates correct target approach and orientation.

X indicates approach and orientation that should be avoided.

CSFN105A-H6X must be mounted downward

Detects presence of HDD discs



| Low Contact Force Limit Switches Selection Chart | | | | | | | | | | |
|--|---------|-----------------|--|-------------|----------------------------|-----------------|---------------------|------------------|-------------------|--|
| Part Number | Price | Drawing Link | Actuator/ Head Type* | Barrel Type | Barrel Diameter/Thread* | Stroke | Switching Output | Contact Force | Connection Type | |
| Low Contact Force, Metal Bearing, Downward Mounting Only | | | | | | | | | | |
| <u>CSFN105A-H6X</u> | \$46.00 | <u>PDF</u> | Ø 2mm plunger [0.079 in] SR 1.5 mm [0.059 in] | Threaded | M10x0.5 | 2mm [0.079in] | NPN, N.O. | 0.1N | 3m [9.8 ft] cable | |
| Low Contact Force, Straight Touch, Metal Bearing | | | | | | | | | | |
| <u>CS067A-LG</u> | \$61.00 | PDF | Ø 2mm plunger [0.079 in] SR 1.5 mm [0.059 in] | Threaded | M6x0.75 | 2.8mm [0.110in] | (1) N.O. | 0.5N | 3m [9.8 ft] cable | |
| ow Contact Force, Straight Touch, Needle Contact | | | | | | | | | | |
| <u>CSJ055A-CG</u> | \$53.00 | <u>PDF</u> | needle plunger Ø 1.5mm flat [0.059 in] | Threaded | M5x0.5 | 2.8mm [0.110in] | (1) N.O. | 0.5N | 3m [9.8 ft] cable | |

Ø = diameter, SR = surface radius

* Must be mounted in a downward direction



CSFN105A-H6X



CS067A-LG



CSJ055A-CG

1-800-633-0405

METROL Precision Limit Switches

| Low Contact Force Limit Switches Specifications | | | | | | | | |
|---|--|-------------------------|------------------------------|--|--|--|--|--|
| Series | CSFN Metal Bearing | CS Custom Metal Bearing | CSJ Custom Needle Contact | | | | | |
| Environmental | | | | | | | | |
| Degree of Protection | IP40 | IP65 | | | | | | |
| Temperature Range | Operating: 0 to 60°C [32 to 140°F] (Ice-free) Operating: 0 to 80°C [32 to 176°F] (Ice-free) | | | | | | | |
| Mechanical Ratings | | | | | | | | |
| Enclosure Material | Stainless Steel (mounting nuts are Ni-plated brass) | | | | | | | |
| Pretravel | 0.4 mm [0.016 in] | 0.3 mm [0.012 in] | | | | | | |
| Torque (for nuts on threaded barrels, set screws on smooth barrels) | 4 N•m [2.95 lb•ft] | 2 N•m [1.48 lb•ft] | N/A | | | | | |
| Vibration | 10–55Hz total amplitude 1.5 for X, Y, Z each direction | | | | | | | |
| Shock | 300 m/s ² for X, Y, Z each direction | | | | | | | |
| Repeat Accuracy | 0.01 mm (10 micron [µm]) * 0.005 mm (5 micron [µm]) * | | | | | | | |
| Recommended Minimum Operating Speed | 50mm (1.96in)/minute | | | | | | | |
| Electrical Ratings | | | | | | | | |
| Contact Life | 10 million operations | | | | | | | |
| Contact Voltage | 12–24VDC 5–24VDC | | VDC | | | | | |
| Steady Current Rating | 10mA or less | | | | | | | |
| Max In-rush Current Rating | 10mA (limit current to protect LED indicator) | | | | | | | |
| Connection Type | Cable: 3m PVC (polyvinyl chloride) Cable: 3m PVC (polyvinyl chloride) oil resistant Ø4/3 cores, 30AWG oil resistant Ø2.8/2 cores, 26AWG Tensile strength 30N, Tensile strength 30N minimum bending R7 minimum bending R7 | | /2 cores, 26AWG ength 30N | | | | | |
| Indicating | -L: LED indicator (mounted in cable 120mm from the switch) | | | | | | | |

* At operating speed 50-200 mm/minute. Operating speed slower than 10 mm (0.393 in)/min is not recommended.

Circuit Diagrams

