MICRO SWITCH Miniature Industrial Limit Switches


DESCRIPTION
The SZL-VL-S Series miniature-type limit switch is designed for use in applications where limited mounting space is available. With IP67 seal rating, these switches are suitable for OEM machinery that requires a rugged and reliable limit switch capable of being mounted in space restricted applications. Its design enhances ease of wiring with ample wiring space, and has an optional cable gland for faster and more efficient wiring termination.

The SZL-VL-S Series switches have a split-housing design made of a die-cast body and head with glass-filled, flameretardant thermoplastic cover. The cover is removable for easy access and ease of installation. Modular actuator head design allows for configurations to meet a variety of application needs. The SZL-VL-S are available globally and carry certifications for applications around the world.

## FEATURES

- Approvals: CCC, CE, UKCA, cULus
- Sealed to IP67, NEMA 1, 12, 13
- Snap-action contacts
- Die-cast metal housing with glassfilled, flame-retardant thermoplastic cover
- Stainless steel levers with either steel and nylon rollers
- Variety of actuators
- Positive-opening contacts (side rotary version only)
- RoHS compliant
- Utilization category:

AC-15 A300 (380 Vac/0.5 A)
DC-13 Q300 ( $220 \mathrm{Vdc} / 0.05 \mathrm{~A}$ )

- Mechanical life rating: 10 million cycles
- Electrical life rating: 0.5 million cycles


## DIFFERENTIATION

- With robust environmental ratings, the SZL-VL-S is protected for all kinds of industrial applications. IP67 indicates that the SZL-VL-S is protected against the effect of immersion in water between 15 cm and 1 m . The competition standard is IP65 which can only withstand low pressure spray and jets of water.
- The electrical rating of 10 A permits the SZL-VL-S switch to be used with heavier electrical loads than competitors


## VALUE TO CUSTOMERS

- These switches are user-friendly interfaces and may be used in a broad range of applications to help meet the challenges of many industrial environments.
- A variety of actuators fit on the same platform reducing the need to use various kinds of mounting hardware.


## APPLICATIONS

- Scissor/boom position detection
- Vehicle accessibility lifts
- Escalators/Motorized walkways
- Machine tools
- Mobile light towers
- Packaging equipment
- Conveyor equipment
- Overhead doors
- Agriculture equipment
- Rail passenger cars (internal doors)


| Characteristic | Parameter |
| :---: | :---: |
| Description | Miniature industrial limit switch |
| Approvals | CCC, CE, UKCA, cULus |
| Housing material | Die-cast metal housing with glass-filled, flame-retardant thermoplastic cover UL 94 flame spread testing: V-O rated |
| Electrical connection | Conduit entry or cable gland |
| Contact design | Snap-action (all versions) <br> Positive-opening contacts (side rotary version only) |
| Contact material | Silver alloy |
| Electrical ratings | AC-15 A300 (380 Vac/0.5 A) <br> DC-13 Q300 ( $220 \mathrm{Vdc} / 0.05 \mathrm{~A}$ ) |
| Thermal current ( $I_{\text {th }}$ ) | $10 \mathrm{~A} / 250 \mathrm{Vac}(E N 60947-5-1)$ |
| Initial contact resistance | $\leq 25 \mathrm{mOhm}$ |
| Insulation resistance | >100 MOhm at 500 Vdc |
| Impulse voltage | 2500 Vdc |
| Dielectric voltage | 1890 Vac for metal housing, 1890 Vac between all terminals to enclosure after durability test |
| Leakage current | $\leq 10 \mathrm{~mA}$ |
| Pollution degree | 3 |
| Environmental sealing | IP67 |
| Operating temperature | $-20^{\circ} \mathrm{C}$ to $70^{\circ} \mathrm{C}\left[-4^{\circ} \mathrm{F}\right.$ to $\left.158^{\circ} \mathrm{F}\right]$ (with no icing) |
| Humidity | 95 \%RH |
| Shock | 30 G , conforming to IEC 60068-2-27 |
| Vibration | $10 \mathrm{G}, 10 \mathrm{~Hz}$ to 55 Hz displacement amplitude 0,75 mm, conforming to IEC 60068-2-6 (wobble excluded) |
| MCTF (Mechanical life) | 10M cycles @ 120 cpm max. |
| MCTF (Electrical life) | 0.5 M cycles @ 30 cpm max. under the rated resistance load |
| Operating speed | $0,05 \mathrm{~mm} / \mathrm{s}$ to $2 \mathrm{~m} / \mathrm{s}$ (based on pin plunger limit switch) |
| Operating frequency | Mechanical: $120 \mathrm{ops} / \mathrm{min}$; Electrical: $30 \mathrm{ops} / \mathrm{min}$ |
| Weight | 120 g to 150 g |

Figure 1. Circuitry


Figure 2. Mounting Holes

[0.83]

Figure 3. Wiring


## MICRO SWITCH MINIATURE INDUSTRIAL LIMIT SWITCHES

 SZL-VL-S SERIESFigure 4. Nomenclature


MICRO SWITCH MINIATURE INDUSTRIAL LIMIT SWITCHES SZL-VL-S SERIES


## MICRO SWITCH MINIATURE INDUSTRIAL LIMIT SWITCHES SZL-VL-S SERIES

Dimensional Drawings • mm [in]
Figure 5. SZL-VL Side Rotary Limit Switch (Fixed Lever)


Figure 7. SZL-VL Side Rotary Limit Switch (Adjust. Rod)


Figure 6. SZL-VL Side Rotary Limit Switch (Adjust. Lever)


Figure 8. SZL-VL Pin Plunger Limit Switch


## MICRO SWITCH MINIATURE INDUSTRIAL LIMIT SWITCHES

 SZL-VL-S SERIESFigure 9. SZL-VL Cross Roller Plunger Limit Switch


Figure 11. SZL-VL Coil Wobble (Plastic Tip) Limit Switch


Figure 10. SZL-VL Roller Plunger Limit Switch


Figure 12. SZL-VL Coil Wobble (Wire Tip) Limit Switch


## MICRO SWITCH MINIATURE INDUSTRIAL LIMIT SWITCHES

 SZL-VL-S SERIESFigure 13. SZL-VL Coil Wobble Limit Switch


Figure 14. SZL-VL M12 Cable Gland (A1-LSC-F)



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