SZL-VL-S SERIES

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, flame-retardant 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 Vdc/0.05 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)

PORTFOLIO



The MICRO SWITCH SZL-VL-S series joins Honeywell's NGC Series and the GLL Series switches for general industrial

applications. The combined portfolio helps ensure a variety of industrial applications or position sensing tasks can be performed by a Honeywell limit switch. To view the entire product portfolio, click here.



TABLE 1. PERFORMANCE SPECIFICATIONS							
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) Positive-opening contacts (side rotary version only)						
Contact material	Silver alloy						
Electrical ratings	AC-15 A300 (380 Vac/0.5 A) DC-13 Q300 (220 Vdc/0.05 A)						
Thermal current (I _{th})	10 A/250 Vac (EN 60947-5-1)						
Initial contact resistance	≤ 25 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	≤ 10 mA						
Pollution degree	3						
Environmental sealing	IP67						
Operating temperature	-20°C to 70°C [-4°F to 158°F] (with no icing)						
Humidity	95 %RH						
Shock	30 G, conforming to IEC 60068-2-27						
Vibration	10 G, 10 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)	0.5M cycles @ 30 cpm max. under the rated resistance load						
Operating speed	0,05 mm/s to 2 m/s (based on pin plunger limit switch)						
Operating frequency	Mechanical: 120 ops/min; Electrical: 30 ops/min						
Weight	120 g to 150 g						

Figure 1. Circuitry

NO 3 () 4 NO

NC 1 () 2 NC

Figure 2. Mounting Holes

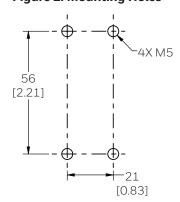


Figure 3. Wiring

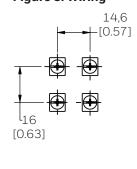


Figure 4. Nomenclature

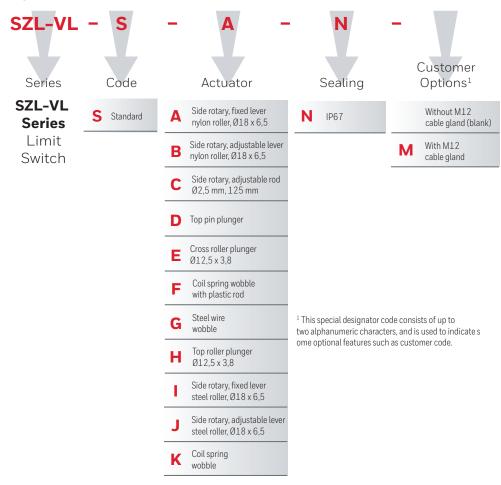


TABLE 2. ORDER GUIDE MM [IN]												
Catalog Listing	Actuator	Roller/pin plunger	Lever	Free Position	Pretravel max. mm [in]	Differential travel max. mm [in]	Overtravel min. mm [in]	Min. travel to achieve posi- tive opening	Operating force/torque (max.)	Bar Graph		
SZL-VL-S-A-N-M	Side rotary, fixed lever	Nylon roller, Ø18 x 6,5 [Ø0.71 x 0.25]	Steel, R30	0°	25°	15°	70°	40°	18 Ncm [1.59 in-lb]	25° 40° max. ⊕ 1-2 3-4 3-4 3-4		
SZL-VL-S-I-N-M	Side rotary, fixed lever	Steel roller, Ø18 x 6,5 [Ø0.71 x 0.25]	Steel, R30	0°	25°	15°	70°	40°	18 Ncm [1.59 in-lb]			
SZL-VL-S-B-N-M	Side rotary, adjustable lever	Nylon roller, Ø18 x 6,5 [Ø0.71 x 0.25]	Steel, R30 to R70	0°	25°	15°	70°	40°	18 Ncm [1.59 in-lb]			
SZL-VL-S-J-N-M	Side rotary, adjustable lever	Steel roller, Ø18 x 6,5 [Ø0.71 x 0.25]	Steel, R30 to R70	0°	25°	15°	70°	40°	18 Ncm [1.59 in-lb]	1-2 0° 10° 95° max. max.		
SZL-VL-S-C-N-M	Side rotary, adjustable rod	-	Metal rod, Ø2,5 mm [0.1 in], 125 mm [4.92 in] long	0°	25°	15°	70°	40°	18 Ncm [1.59 in-lb]			
SZL-VL-S-D-N-M	Top pin plunger	Metal pin, Ø6,6 [0.26]	-	27 ±0,8 [1.04 ±0.03]*	2 [0.08]	1,5 [0.06]	3,5 [0.14]	n/a	9 N [2.02 lb]	2 mm max.		
SZL-VL-S-H-N-M	Top roller plunger	Steel roller, Ø12,5 x 3,8 [Ø0.5 x 0.15]	-	38,5 ±0,8 [1.5 ±0.03]*	2 [0.08]	1,5 [0.06]	3,5 [0.14]	n/a	9 N [2.02 lb]	1-2 3-4		
SZL-VL-S-E-N-M	Top cross roller plunger	Steel roller, Ø12,5 x 3,8 [Ø0.5 x 0.15]	-	38,5 ±0,8 [1.5 ±0.03]*	2 [0.08]	1,5 [0.06]	3,5 [0.14]	n/a	9 N [2.02 lb]	3-4 1-2 0 0,5 mm 5,5 mm max.		
SZL-VL-S-F-N-M	Wobble, coil spring and nylon rod	-	Ø5,8 mm [0.23 in] coil spring with plastic rod	0°	30°	-	20°	n/a	2 N [0.45lb]	30°		
SZL-VL-S-G-N-M	Wobble, coil spring and metal wire	-	Ø5,8 mm [0.23 in] coil spring with Ø1,2 mm [0.05 in] metal wire	0°	30°	-	20°	n/a	2 N [0.45lb]	max. 1-2 3-4 3-4 1-2		
SZL-VL-S-K-N-M	Wobble, coil spring	-	Ø5,8 mm [0.23 in] coil spring	0°	30°	-	20°	n/a	2 N [0.45lb]	0° 10° 55°		

^{* (}from the center of the mounting hole)

Dimensional Drawings • mm [in]

Figure 5. SZL-VL Side Rotary Limit Switch (Fixed Lever)

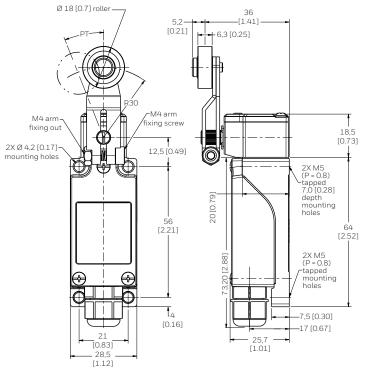


Figure 6. SZL-VL Side Rotary Limit Switch (Adjust. Lever)

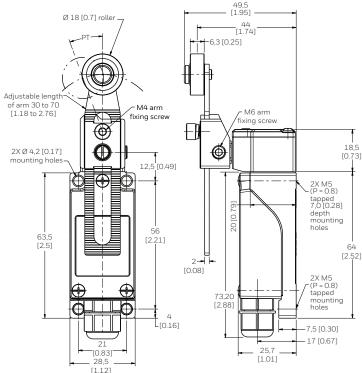


Figure 7. SZL-VL Side Rotary Limit Switch (Adjust. Rod)

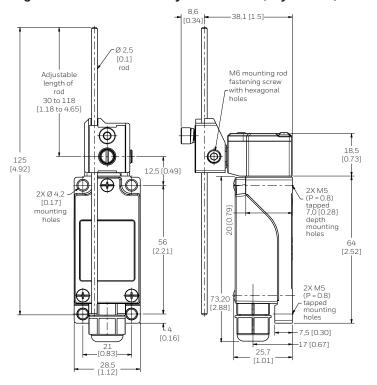


Figure 8. SZL-VL Pin Plunger Limit Switch

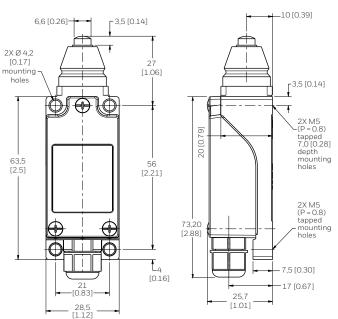


Figure 9. SZL-VL Cross Roller Plunger Limit Switch

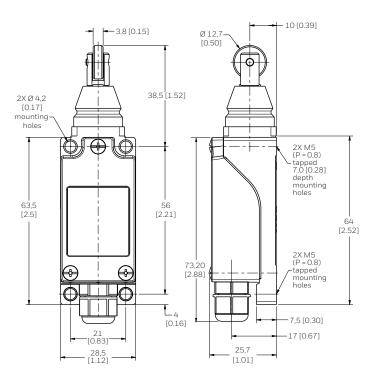


Figure 10. SZL-VL Roller Plunger Limit Switch

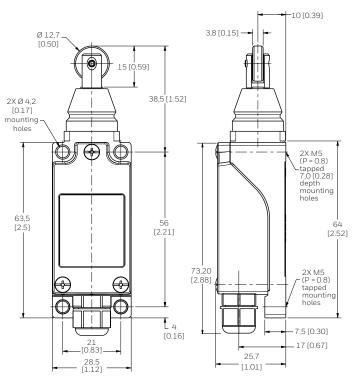


Figure 11. SZL-VL Coil Wobble (Plastic Tip) Limit Switch

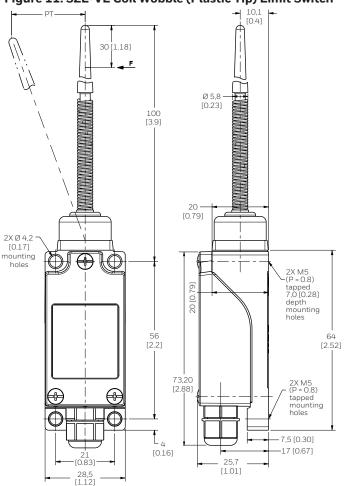


Figure 12. SZL-VL Coil Wobble (Wire Tip) Limit Switch

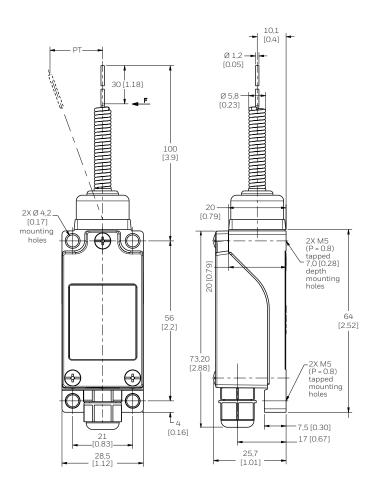


Figure 13. SZL-VL Coil Wobble Limit Switch

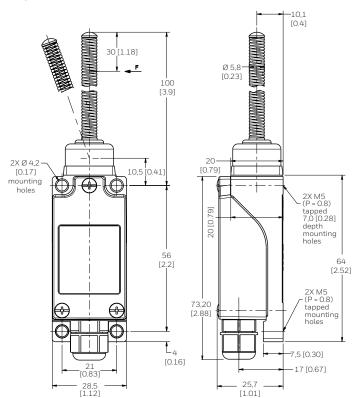
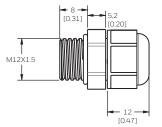
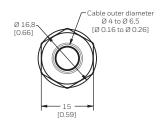


Figure 14. SZL-VL M12 Cable Gland (A1-LSC-F)





WARRANTY/REMEDY

Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship during the applicable warranty period. Honeywell's standard product warranty applies unless agreed to otherwise by Honeywell in writing; please refer to your order acknowledgment or consult your local sales office for specific warranty details. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace, at its option, without charge those items that Honeywell, in its sole discretion, finds defective. The foregoing is buyer's sole remedy and is in lieu of all other warranties, expressed or implied, including those of merchantability and fitness for a particular purpose. In no event shall Honeywell be liable for consequential, special, or indirect damages.

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Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this writing. However, Honeywell assumes no responsibility for its use.

⚠ WARNINGMISUSE OF DOCUMENTATION

- The information presented in this product sheet is for reference only.
 Do not use this document as a product installation guide.
- Complete installation, operation, and maintenance information is provided in the instructions supplied with each product.

Failure to comply with these instructions could result in death or serious injury.

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