

Miniature limit Switch

SZL-VL series



FEATURES

- Compact design for small mounting space
- Special design for easy wiring with ample wiring space
- Single Pole Double Throw, Double-break
- Zinc Diecast base and plastic cover
- Standard mounting dimensions
- 5 Ampere current capacity
- Long mechanical life
- Neon Lamp and LED indicator
- Flexible cable gland
- C-UL, CE approved
- IP64 Enclosure rating

APPLICATIONS

- Machine tools
- Material handling
- Food processing machines
- Conveyors
- Packaging machines
- Gaming machines

DESCRIPTION

The new economical SZL-VL series miniature type limit switches are specially designed for applications of small mounting space.











These miniature switches are ideal for OEM machinery which requires a rugged and reliable limit switch that is capable of being mounted in space restricted applications. A wide range of actuators and optional operation indicators add additional flexibility. A special pre-molded flexible cable gland allows for fast and simple wiring termination.

WARNINGS



- DO NOT USE this product as safety or emergency devices or in any other applications where failure of the product could result in a personal injury
- This information presented in this product sheet is for reference only. DO NOT USE this document as product installation information.

MODEL SELECTION GUIDE

Actuator	Listings	Standard	Neon Lamp	LED
Side Rotary – Roller Lever Standard Plastic Roller		SZL-VL-A	SZL-VL-A-LE	SZL-VL-A-L3
Side Rotary - Roller Lever Standard Metal Roller		SZL-VL-I	SZL-VL-I-LE	SZL-VL-I-L3
Side Rotary - Roller Lever Adjustable Plastic Roller		SZL-VL-B	SZL-VL-B-LE	SZL-VL-B-L3
Side Rotary - Roller Lever Adjustable Metal Roller		SZL-VL-J	SZL-VL-J-LE	SZL-VL-J-L3
Side Rotary – Rod Adjustable		SZL-VL-C	SZL-VL-C-LE	SZL-VL-C-L3
Top Plunger		SZL-VL-D	SZL-VL-D-LE	SZL-VL-D-L3
Cross Roller Plunger		SZL-VL-E	SZL-VL-E-LE	SZL-VL-E-L3
Roller Plunger		SZL-VL-H	SZL-VL-H-LE	SZL-VL-H-L3
Wobble - Plastic Rod Coil Spring		SZL-VL-F	SZL-VL-F-LE	SZL-VL-F-L3
Wobble - Coil Spring		SZL-VL-G	SZL-VL-G-LE	SZL-VL-G-L3

Note: In addition to the listings above, many more standard and special types are available on your specific application needs.

※ Numbering Scheme

SZL-VL-□ -□ □
 ① ② ③

① Actuator

Refer to the table above

② Special Type

X Reserved

③ Indicator

None	No indicator
LE	Neon lamp(AC type)
L3	LED(DC24V/2mA??)

Continued...

TECHNICAL INFORMATION

■ Electrical Ratings

Types	Rated Voltage	Resistive Load ($\text{COS}\phi \doteq 1$)	Inductive Load ($\text{COS}\phi \doteq 0.4$)
Standard type	AC125V	5 A	3 A
	AC250V	5 A	2 A
	DC125V	0.4 A	0.1 A
Neon Lamp type	AC125V	5 A	3 A
	AC240V	5 A	2 A
LED type	DC24V	3 A	–

■ Specifications

Circuitry		Single Pole Double Throw, Double Break
Actuators		Refer to the model selection at page 2
Operating speed		Plunger type: 0.1 mm/s to 1,000 mm/s, Lever type: 1.0 mm/s to 1,000 mm/s
Contact material		Gold-plated silver
Contact resistance (Initial)		Max. 15 m Ω
Insulation resistance (Initial)		Min. 100 M Ω at 500 VDC
Dielectric strength		Between non-continuous terminals : 1,000 V. Between each terminal and non-current-carrying metal parts : 2,000 V. Between each terminal and ground : 2,000 V.
Life	Mechanical	10,000,000 operations (at max. operating frequency)
	Electrical	300,000 operations (at rated resistive load)
Shock resistance		At free position : Max. 10 G At operation limit position : Max. 30 G
Vibration resistance		55 Hz at double amplitude of 1.5 mm (Indicator type : 10~55 Hz)
Ambient temperature		-20 to 60 °C
Ambient humidity		Max. 95% RH
Max. operating frequency		Plunger type : 120 operations/min, Lever type : 60 operations/min
Package(size)		10 units in one package(H 50 × W 210 × L 303)
Agency Approvals		C-UL,CE approved
Sealing		IP64 Enclosure rating
Weight		Approx. 149 g with SZL-VL-A
Life of lamp		Min. 20,000 hours (Neon lamp type)

■ Operating Characteristics

Characteristics Actuator	Operating Force O.F. max. (gf)	Release Force R.F. min. (gf)	Pretravel P.T. max. (mm)	Overtravel O.T. min. (mm)	Differential travel D.T. max. (mm)	Total Travel T.T. min. (mm)
Side Rotary – Roller Lever Standard	600	50	20°	75°	10°	95°
Side Rotary – Roller Lever Adjustable	342 to 800	21 to 50	20°	75°	10°	95°
Side Rotary – Rod Adjustable	203 to 800	12 to 50	20°	75°	10°	95°
Top Plunger	900	150	1.5	4	0.7	5.5
Cross Roller Plunger	900	150	1.5	4	0.7	5.5
Roller Plunger	900	150	1.5	4	0.7	5.5
Wobble – Plastic Rod Coil Spring	90	–	30	20	–	50
Wobble – Coil Spring	90	–	30	20	–	50

Notes: 1.The operating characteristics of indicator types are same with those of standard types above.
2.The operating characteristics of coil spring types are measured at the point of 5 to 10 mm from the actuator tip.

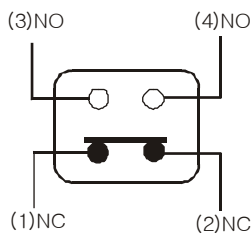
■ Approvals

Approval	Standard	File No.
C-UL	UL508	E150950
CE	EN60947-5-1	–

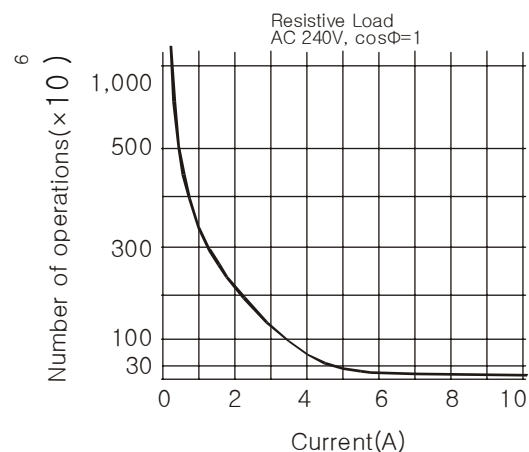
■ Indicator Rating

Indicator Type	Rated Operating Voltage	Operating Voltage Range	Internal Register
Neon Lamp	AC 100 to 200V	AC 80 to 240V	120 kΩ
LED	DC 24 to 48V	DC 20 to 55V	15 kΩ

■ Circuitry



■ Electrical Life Curve

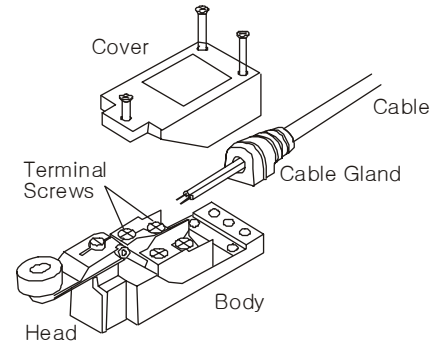


Miniature Limit Switch

SZL-VL series

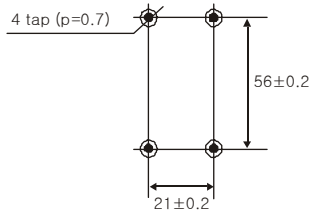
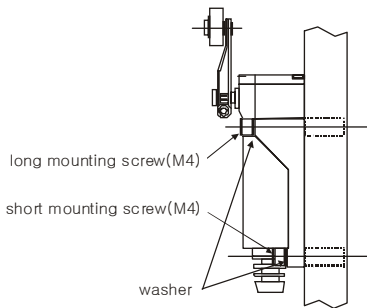
■ Exploded View

When you remove the cover, the internal terminal block is open wide to the front and sides. This gives you enough space to finish wiring work very easily. The flexible cable gland also allows for fast and simple termination wiring helping you install the switch in a mounting space restricted application.



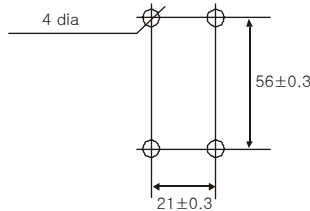
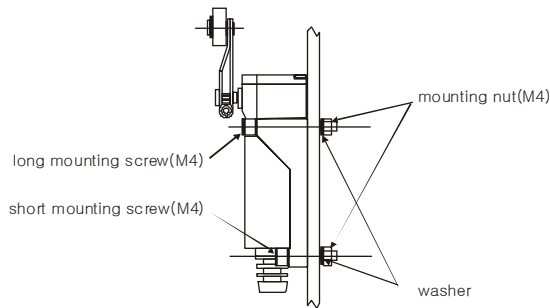
■ Mounting Dimensions

<Surface mounting>



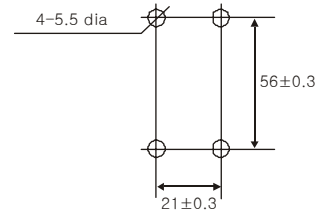
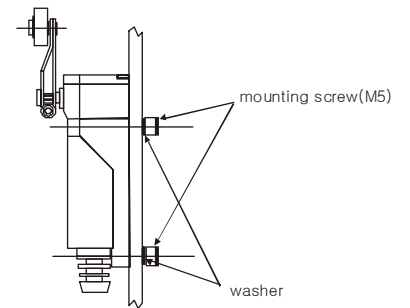
depth of screw holes > 15mm

<Through hole mounting>



thickness of panel < 7mm

<Rear mounting>

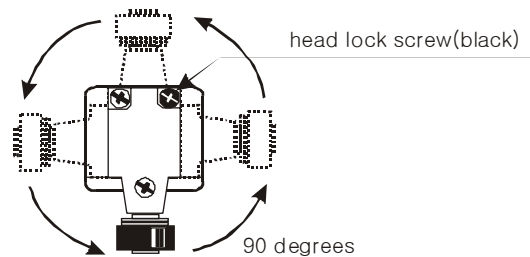


length of mounting screw < thickness of panel + 7mm

■ Head Direction Change

Side rotary types of SZL-VL limit switches provide the function of head direction change with 90° increment.

The operating head can be set to any of the four positions by loosening the head lock screw as shown in the picture.



Miniature Limit Switch

SZL-VL series

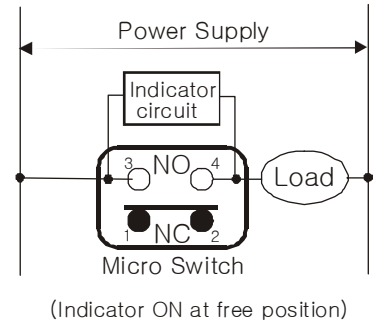
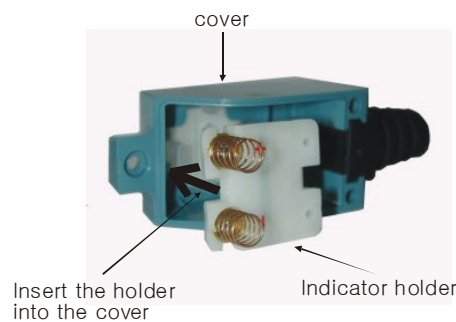
Indicator Type Switches

The AC neon lamp types are compatible with AC 100V and 200V range. The neon lamp sends out bright and clear light that helps your easy maintenance running for 20 thousand hours long.

The LED indicator types are compatible with DC 24V to 48V range using highly luminous twin LEDs.

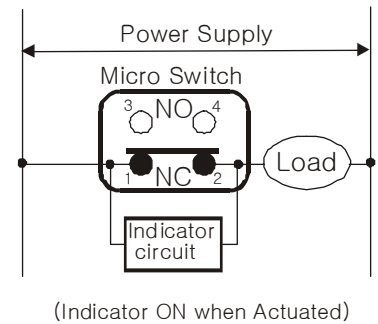
Both types of indicator can be even brighter with the help of the diamond-shape cut transparent window

<Free Position Mode>



- The Indicator holder spring is aligned to fit to the NO contacts. Indicator is On when NC contacts are closed(at free position), then goes OFF when NO contacts are closed(when actuated).
- Every switch is shipped out of factory with this mode.

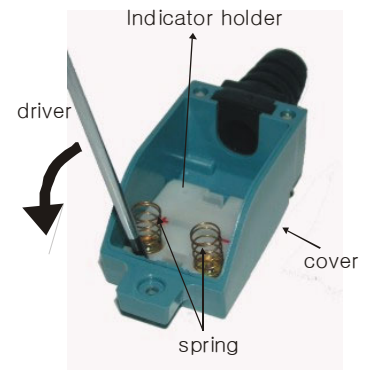
<Operation Mode>



- The Indicator holder spring is aligned to fit to the NC contacts. Indicator is On when NO contacts are closed (when actuated), then goes OFF when NC contacts are closed(at free position).
- In order to use operation mode, rotate the indicator holder 180° so that the spring get aligned to the NC contacts.

<Indicator Mode Change>

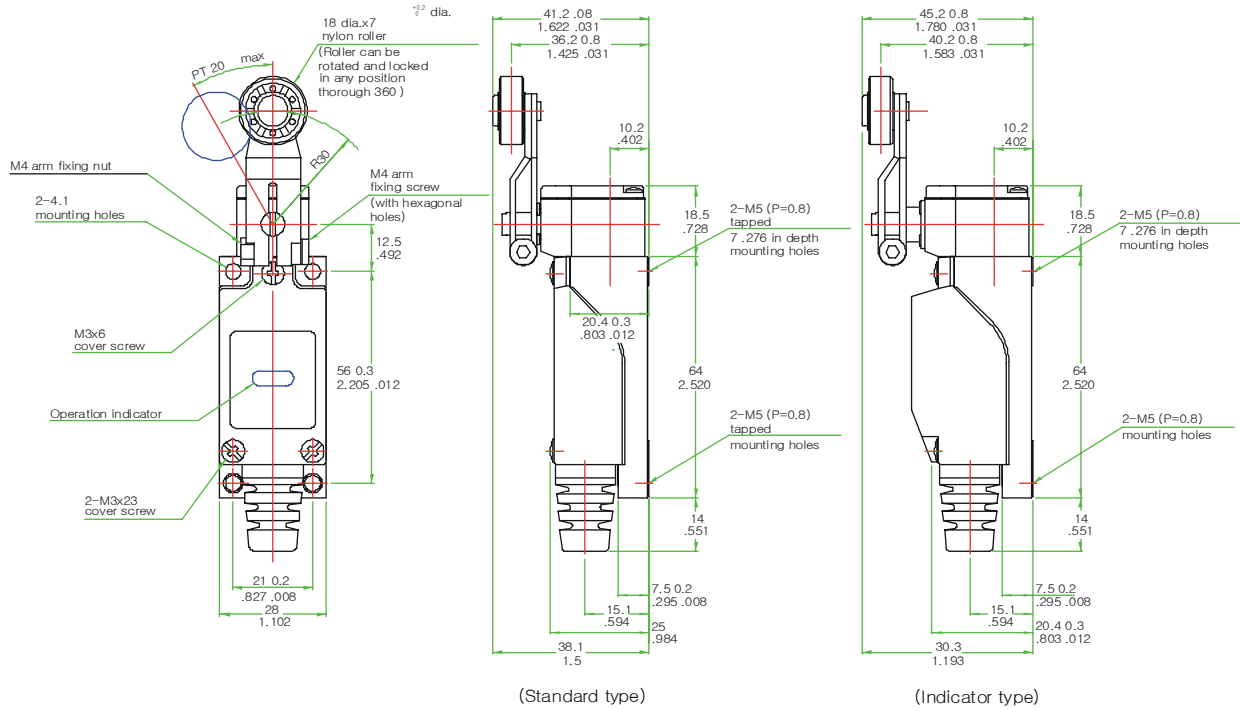
- As shown in the picture, put a minus driver in the space between the holder and cover and remove the indicator holder by rotating the driver to the arrow direction.
- After removing the indicator holder, put it in the reversed direction and push it into the original position until a snap sound is heard. Make sure the springs rest completely on the terminal screws, otherwise the spring may be distorted, which leads to failure in lighting of indicator or short circuit.



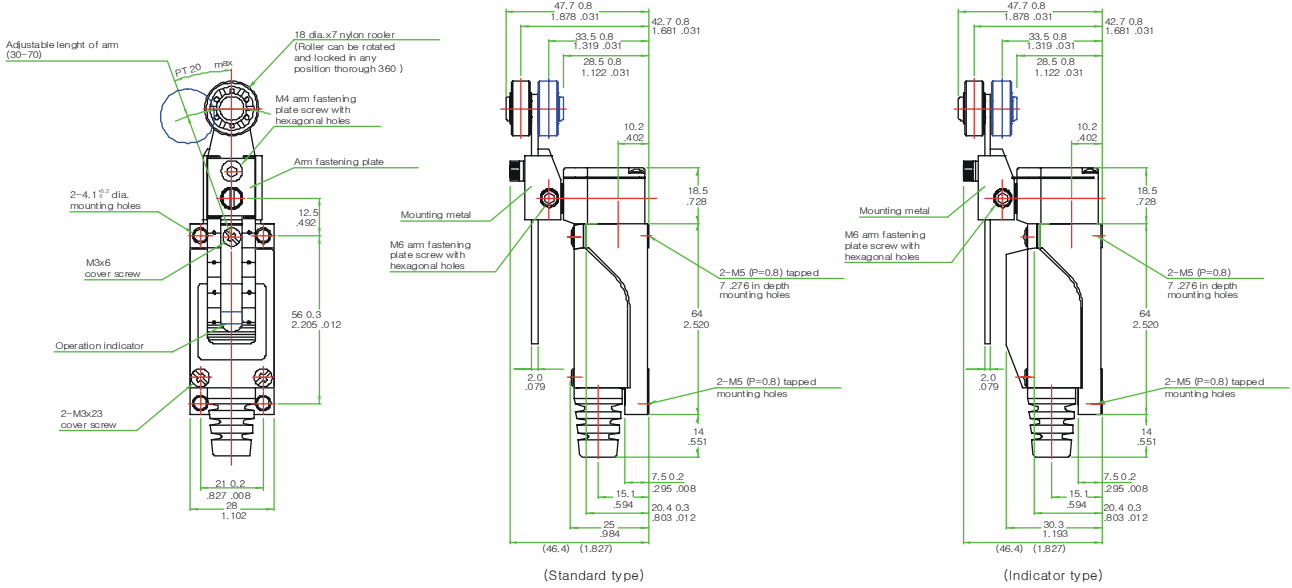
Miniature Limit Switch

SZL-VL series

■ Dimensions



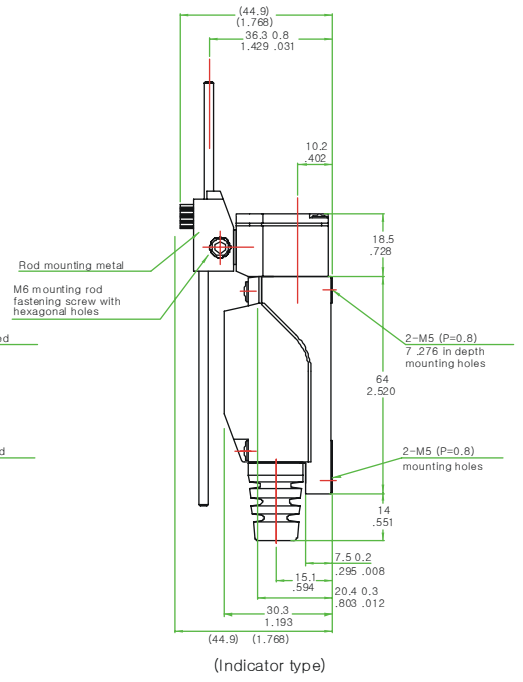
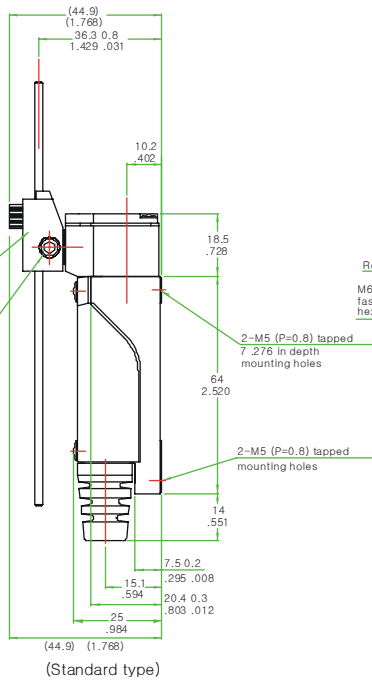
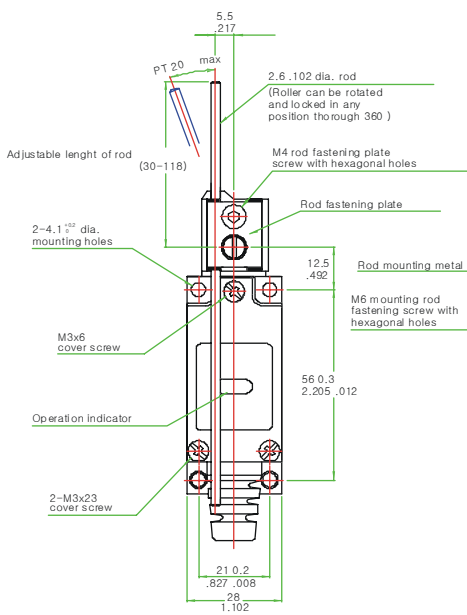
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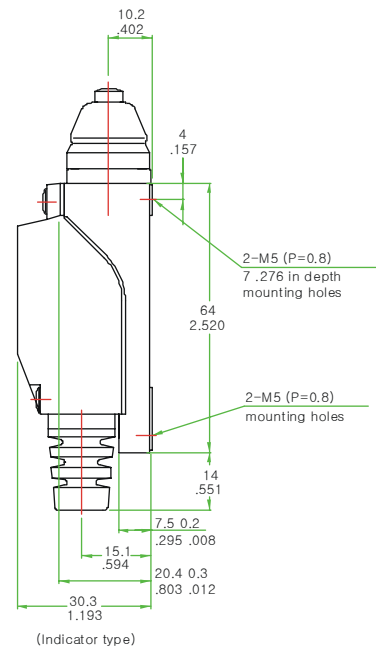
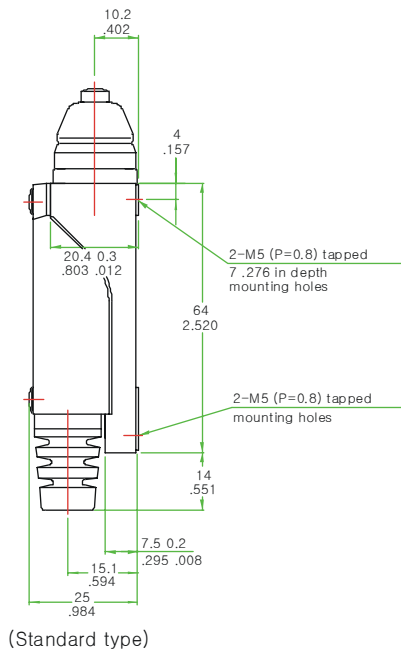
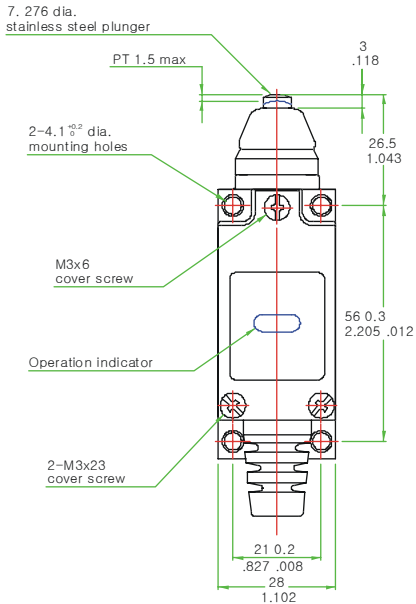
<SZL-VL-B>

Miniature Limit Switch

SZL-VL series



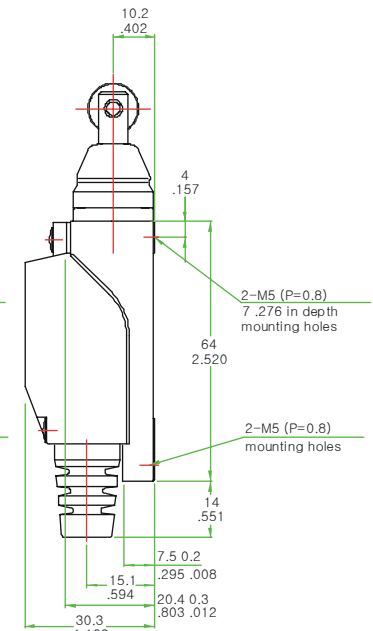
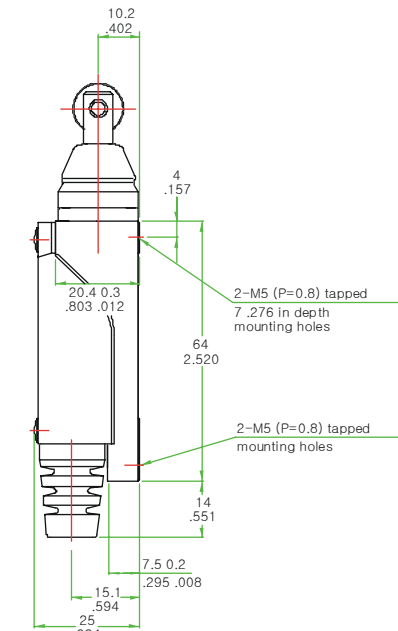
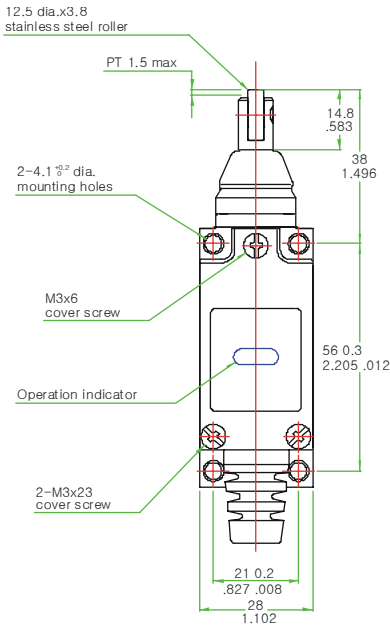
<SZL-VL-C>



<SZL-VL-D>

Miniature Limit Switch

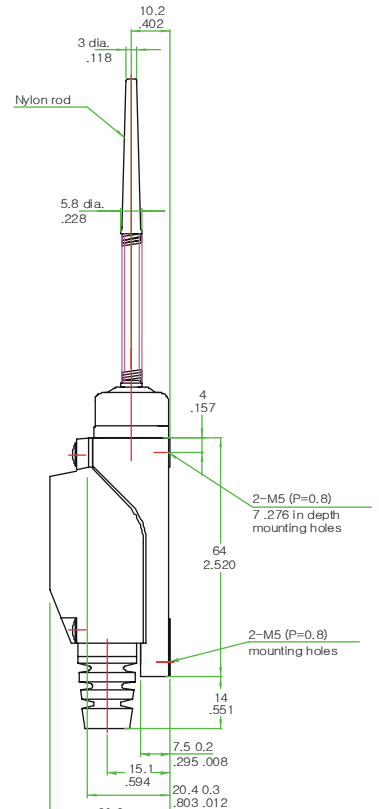
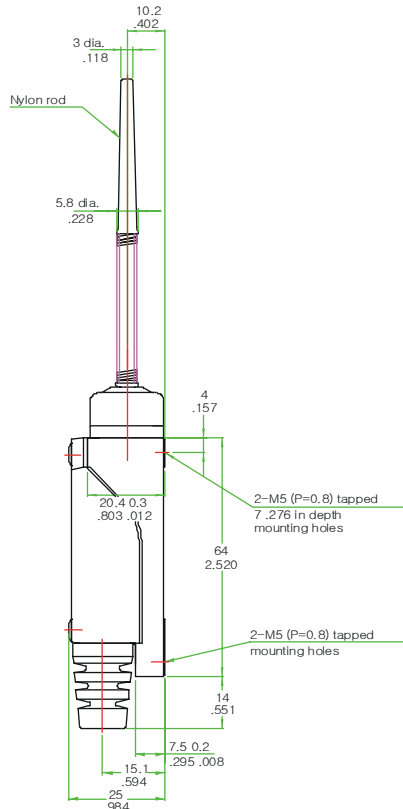
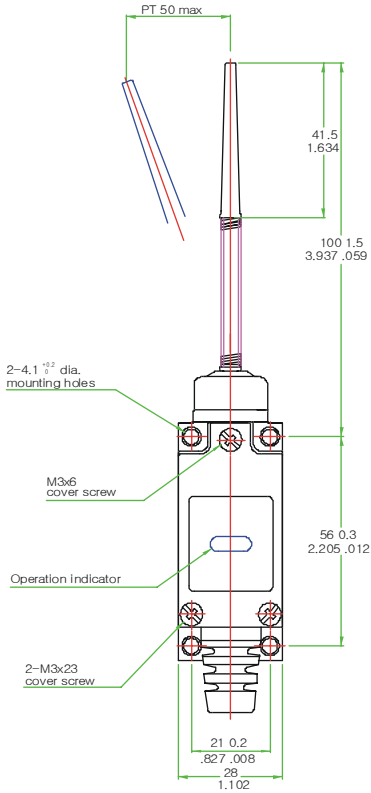
SZL-VL series



(Standard type)

(Indicator type)

<SZL-VL-E>



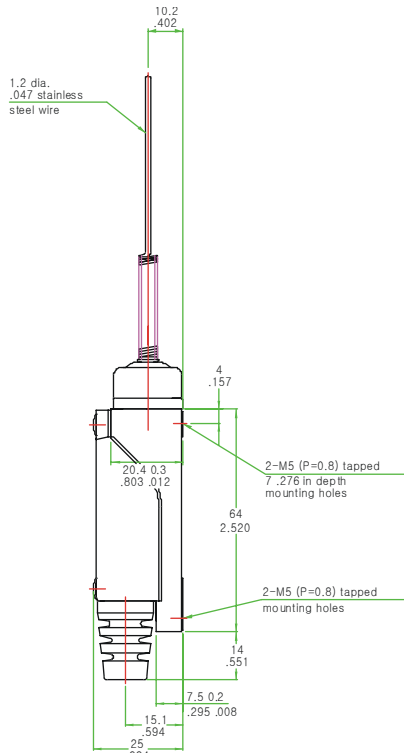
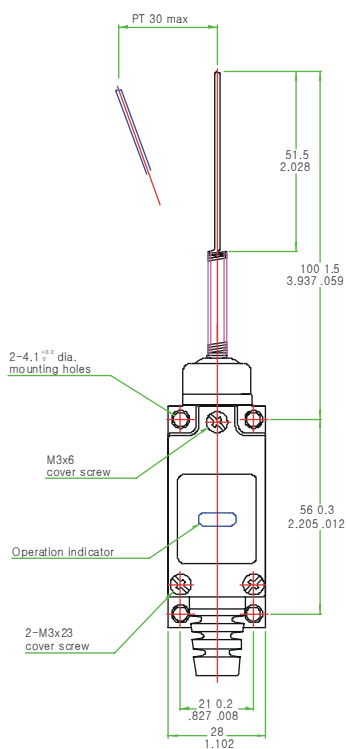
(Standard type)

(Indicator type)

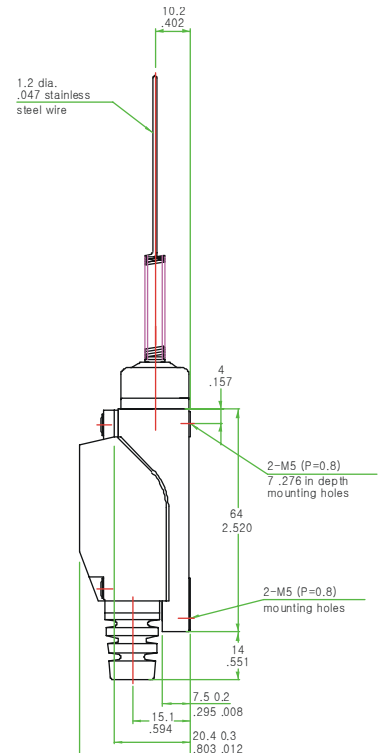
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Miniature Limit Switch

SZL-VL series

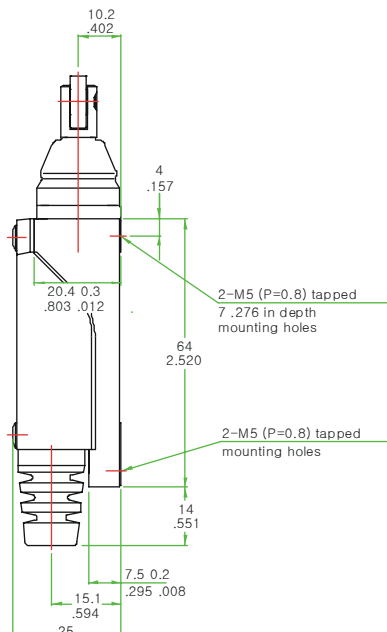
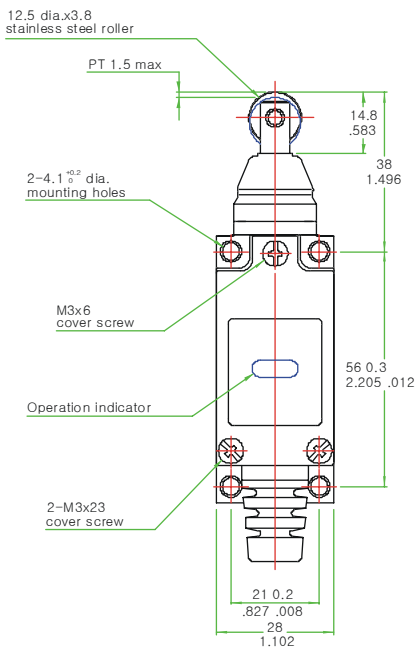


(Standard type)

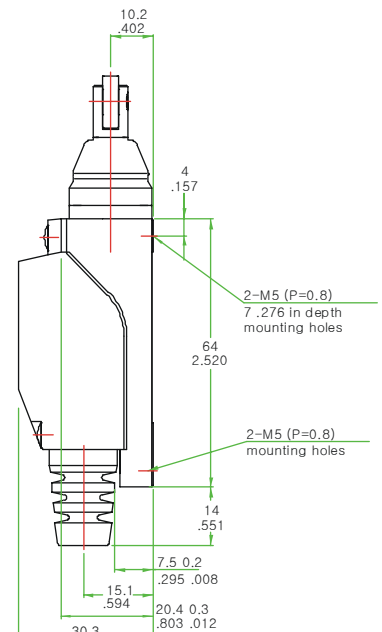


(Indicator type)

<SZL-VL-G>



(Standard type)

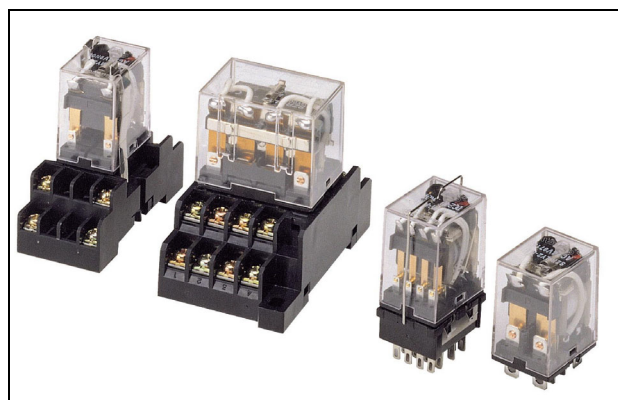
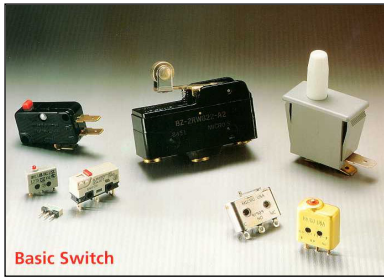


(Indicator type)

<SZL-VL-H>

Miniature Limit Switch

SZL-VL series



In addition to the SZL-VL series, Honeywell offers one of the industry's widest range of components to meet virtually any application requirement. Please contact your local Honeywell office for more information.

Warranty/Remedy

Honeywell warrants goods of its manufacture as being free of defective material and faulty workmanship. Contact your local sales office for warranty information. If warranted goods are returned to Honeywell during that period of coverage, Honeywell will repair or replace without charge those items it 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.**

While we provide application assistance, personally and through our literature, it is up to the customer to determine the suitability of the product in the application.

Specifications may change at any time without notice. The information we supply is believed to be accurate and reliable as of this printing. However, we assume no responsibility for its use.

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