

## General Purpose Limit Switch

## SZL-WL series



### FEATURES

- Single Pole Double Throw, Double Break
- High mechanical strength and Rugged Aluminum die-cast housing
- Wide range of levers and actuators
- Standard mounting dimensions
- 10 Amp current capacity
- Long mechanical life
- Set position indicator for easy maintenance
- Oiltight, waterproof and dustproof construction
- UL, CSA, CE approved
- IP67 Enclosure rating

### APPLICATIONS

- Machine tools
- Material handling
- Food and beverage
- Conveyors
- Special machinery
- Control Valve
- Auto Parking

### DESCRIPTION

The new economical SZL-WL series general purpose limit switches are cost-effective switches for detecting objects in a wide range of applications from general purpose conveyors to heavy-duty machinery.

Rugged and reliable, these switches are offered with a variety of actuators, functions and electrical ratings.

Various series of overtravel types, high precision types, double sealing types as well as weld-immune types can be selected based on your specific application.

These switches are specially designed for world-wide applications and supported by Honeywell global resources for sales and after sales service.

Customers will benefit from Honeywell's vast experience in serving world industries over many years. To minimize plant down-time and reduce maintenance costs, the SZL-WL series include indicator type switches with twin LEDs.

### WARNINGS

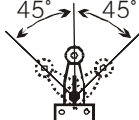
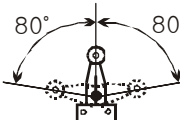
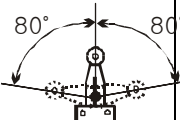
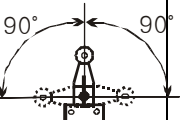
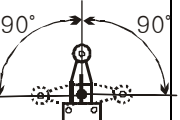
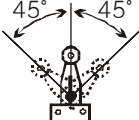


















- DO NOT USE this product as safety or emergency devices or in any other applications where failure of the product could result in a personal injury
- This information presented in this product sheet is for reference only. DO NOT USE this document as product installation information.

# General Purpose Limit Switch

# SZL-WL series

## MODEL SELECTION GUIDE

Type  Actuator	Standard	Overtravel				High precision
		A series 	B series 	C series 	D series 	
Side Rotary Roller Lever Standard 	SZL-WL-A	SZL-WLA-A	SZL-WLB-A	SZL-WLC-A	SZL-WLD-A	SZL-WLE-A
Side Rotary Roller Lever Adjustable 	SZL-WL-B	SZL-WLA-B	SZL-WLB-B	SZL-WLC-B	SZL-WLD-B	SZL-WLE-B
Side Rotary Rod Adjustable 	SZL-WL-C	SZL-WLA-C	SZL-WLB-C	SZL-WLC-C	SZL-WLD-C	SZL-WLE-C
Fork Lock Lever (opposite direction rollers) 	SZL-WL-D					
Fork Lock Lever (same direction rollers) 	SZL-WL-P					
Top Roller Plunger 	SZL-WL-E					
Top Plunger 	SZL-WL-F					
Top Roller plunger Sealed 	SZL-WL-G					
Side Roller Plunger 	SZL-WL-H					
Top Ball Plunger 	SZL-WL-I					
Side Plunger 	SZL-WL-J					
Wobble-coil spring (φ 6.5) 	SZL-WL-K					
Wobble-coil spring (φ 4.8) 	SZL-WL-L					
Wobble-plastic rod (φ 8.0) 	SZL-WL-M					
Wobble-steel wire (φ 1.0) 	SZL-WL-N					

Note: 1. As for indicator types and special types, refer to the numbering below.  
2. In addition to the listings above, many more standard and special types are available on your specific application needs.

### ※ Numbering Scheme

SZL-WL  -  -    
 ① ② ③ ④

#### ① Type

- None Standard
- A Overtravel A series
- B Overtravel B series
- C Overtravel C series
- D Overtravel D series
- E High Precision

#### ② Actuator

Refer to the table above

#### ③ Special Type

- None Non-special
- L Weld-immune type
- E Double Sealing type

#### ④ Indicator

- None No indicator
- LE Neon lamp(AC type)
- L3 LED(DC24V/1.3mA)

## TECHNICAL INFORMATION

### ■ Electrical Ratings

Part Number (Type)	Rated Voltage (V)	Make and break amps (Non-inductive load)				Make and break amps (inductive load)			
		Resistive load		Lamp load		Inductive load		Motor load	
		NC	NO	NC	NO	NC	NO	NC	NO
Standard type Overtravel A series Overtravel C series Overtravel D series High precision	AC 125	10		3	1.5	10		5	2.5
	250	10		2	1	10		3	1.5
	480	10		1.5	0.8	3		1.5	0.8
	DC 8	10		6	3	10		6	
	14	10		6	3	10		6	
	30	6		4	3	6		4	
High precision	125	0.8		0.2	0.2	0.8		0.2	
	250	0.4		0.1	0.1	0.4		0.1	
	Overtravel B series	AC 125	5		-	-	-		-
	250	5		-	-	-		-	
	DC 125	0.4		-	-	-		-	
	250	0.2		-	-	-		-	

Notes : 1. Inductive load : power factor=0.4, time constant=7ms  
 2. Lamp load has an inrush current of 10 times the steady state current.  
 3. Motor load has an inrush current of 6 times the steady state current.

### ■ Specifications

Circuitry	Single Pole Double Throw, Double Break
Actuators	Refer to the model selection
Operating speed	1mm/s to 1,000 mm/s with SZL-WL-A
Max. Operating frequency	Mechanical : 120 operations/min, Electrical : 20 operations/min
Contact Material	Ag + Cu
Contact resistance(Initial)	Max. 25mΩ
Insulation resistance	Min. 100MΩ (at 500VDC)
Dielectric strength	1,000VAC, 50/60 Hz for 1 min between non-continuous terminals (600VAC for overtravel B series) 2,200VAC, 50/60 Hz for 1 min between each terminal and non-current-carrying metal part and between each terminal and ground (1,500VAC for overtravel B series)
Temperature rise	Max. 50 °C
Vibration resistance	Malfunction durability : 10 to 50 Hz, 1.5mm double amplitude (exclude wobble actuator types: -K,-L,-M,-N listings)
Shock resistance	Destruction durability : approx. 1,000 m/s <sup>2</sup> (100G) Malfunction durability : approx. 300 m/s <sup>2</sup> (30G) (exclude wobble actuator types)
Ambient temperature	Operating : -10°C to +80°C (14°F to 176°F)
Ambient Humidity	Operating : Max. 95 %RH
Service life	Mechanical : 15,000,000 operations (10,000,000 operations for overtravel B series and wobble) Electrical : 750,000 operations (500,000 operations for overtravel B series)
Weight	Approx. 270 g with SZL-WL-A
Agency Approvals	C-UL,CE,CSA approved
Sealing	IP67

# General Purpose Limit Switch

# SZL-WL series

## ■ Operating Characteristics

### A. Standard Type

	WL-A	WL-B*	WL-C**	WL-D,P	WL-E	WL-F	WL-G
OF (max.)	1,360g	1,360g	142g	1,200g	2,720g	2,720g	1,700g
RF (min.)	227g	227g	28g	-	910g	910g	450g
PT	15± 5°	15± 5°	15± 5°	50± 5°	1.7 mm (max.)	1.7 mm (max.)	1.7 mm
OT (min.)	30°	30°	30°	35°	5.6 mm	6.4 mm	5.6 mm
MD (max.)	12°	12°	12°	-	1 mm	1 mm	1 mm
TT (min.)	40°	40°	40°	-	-	-	-
OP	-	-	-	-	44± 0.8 mm	34± 0.8 mm	44± 0.8 mm
TTp (max.)	-	-	-	-	39.5 mm	29.5 mm	39.5 mm
	WL-H	WL-I	WL-J	WL-K***	WL-L***	WL-M***	WL-N***
OF (max.)	4,082g	2,720g	4,082g	150g	150g	150g	29g
RF (min.)	907g	910g	907g	-	-	-	-
PT	2.8 mm	1.7 mm (max.)	2.8 mm (max.)	20± 10 mm	20± 10 mm	40± 20 mm	40± 20 mm
OT (min.)	5.6 mm	4 mm	6.4 mm	-	-	-	-
MD (max.)	1 mm	1 mm	1 mm	-	-	-	-
TT (min.)	-	-	-	-	-	-	-
OP	54.2± 0.8 mm	44.5± 0.8 mm	40.6± 0.8 mm	-	-	-	-
TTp (max.)	-	41 mm	-	-	-	-	-

Notes: \*: Operating characteristics of WL-B are those measured at the arm length of 38 mm.

\*\* : Operating characteristics of WL-C are those measured at the lever length of 140 mm.

\*\*\* : Operating characteristics of these types are those measured at the tip of the actuator.

### B. Overtravel Type/High Precision Type

	WLA-A	WLB-A	WLA-B*	WLB-B*	WLA-C**	WLB-C**	WLC-A
OF (max.)	1,000g	1,000g	1,000g	1,000g	290g	290g	900g
RF (min.)	100g	100g	100g	100g	25g	25g	50g
PT	18± 4°	10± 2°	18± 4°	10± 2°	18± 4°	10± 2°	25± 5°
OT (min.)	55°	65°	55°	65°	55°	65°	60°
MD (max.)	10°	7°	10°	7°	10°	7°	16°
TT (min.)	80°	80°	80°	80°	80°	80°	90°
OP	-	-	-	-	-	-	-
TTp (max.)	-	-	-	-	-	-	-
	WLC-B*	WLC-C**	WLD-A	WLD-B*	WLD-C**	WLE-A	
OF (max.)	900g	260g	980g	980g	290g	1360g	
RF (min.)	50g	10g	120g	120g	25g	150g	
PT	25± 5°	25± 5°	Max. 20°	Max. 20°	Max. 20°	6± 1°	
OT (min.)	60°	60°	70°	70°	70°	40°	
MD (max.)	16°	16°	10°	10°	10°	3°	
TT (min.)	90°	90°	90°	90°	90°	40°	
OP	-	-	-	-	-	-	
TTp (max.)	-	-	-	-	-	-	

\* : Operating characteristics of these types are those measured at the arm length of 38 mm.

\*\* : Operating characteristics of these types are those measured at the lever length of 140 mm.

C. THE OPERATING CHARACTERISTICS OF SPECIAL TYPES ARE THE SAME WITH THE TABLE ABOVE.

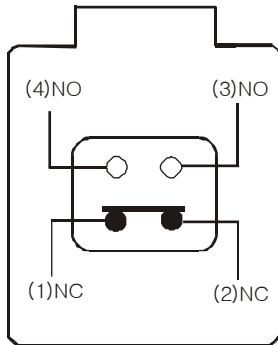
## ■ Approvals

Approval	Standard	File No.
UL	UL508	E150950
CE	EN60947-5-1	NA
CSA	CSA std C22.2	LR65601-13

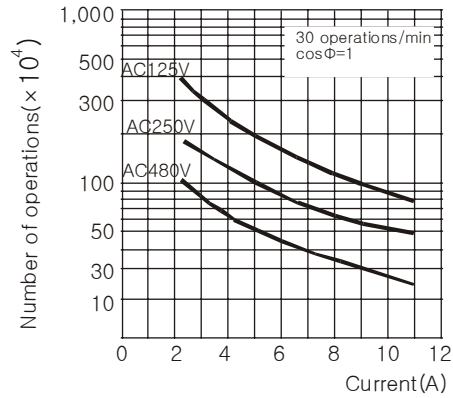
# General Purpose Limit Switch

# SZL-WL series

## ■ Circuitry



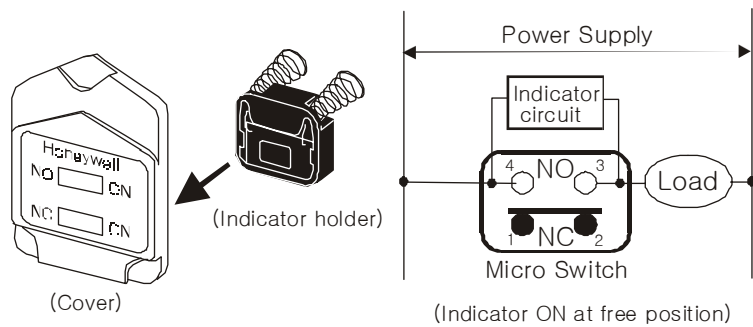
## ■ Electrical Life Curve



## ■ Indicator Installation

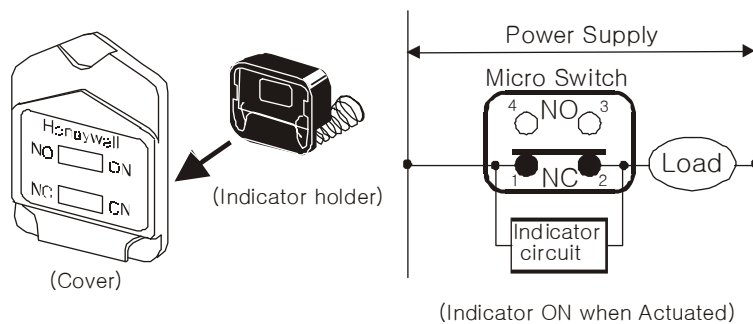
### <Free Position Mode>

- Indicator is positioned to fit to the NC-ON window of the cover and the spring is aligned to 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>

- Indicator is positioned to fit to the NO-ON window of the cover and the spring is aligned to NC contacts.
- Indicator is On when NO contacts are closed (when actuated), then goes Off when NC contacts are closed (when released).
- NO-ON mode and NC-ON mode can be switched to each other by rotating the indicator holder.



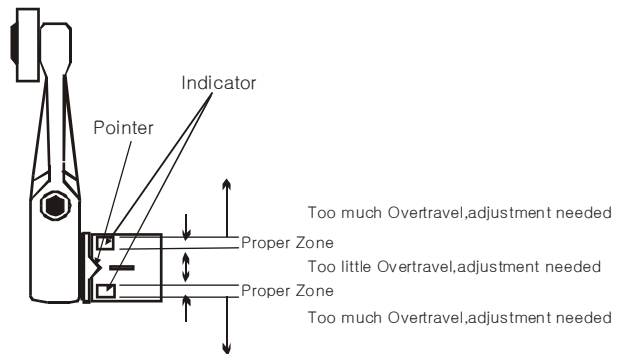
# General Purpose Limit Switch

# SZL-WL series

## ■ Set Position Indicator

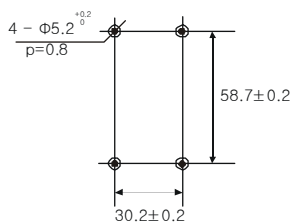
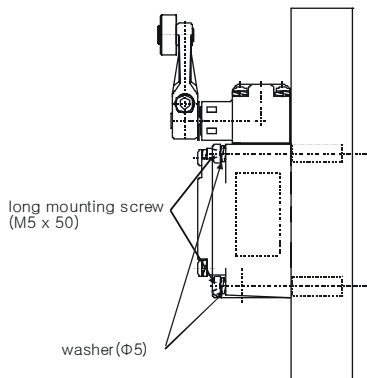
### <Proper Operation Zone>

The two convex surface indicators on the shaft housing show the operating zones for proper operation to help you do simple installation and maintenance. Too much overtravel may cause short mechanical life due to possible damage to the switch mechanism.

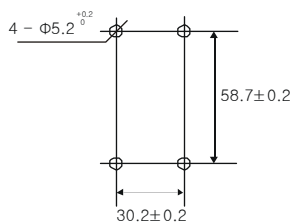
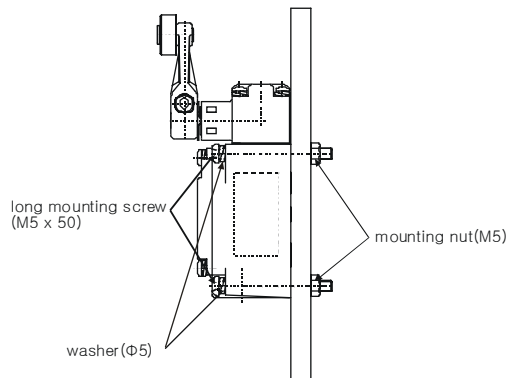


## ■ Mounting Dimensions

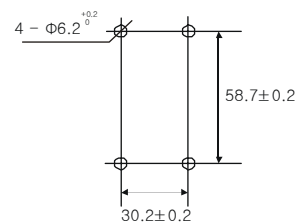
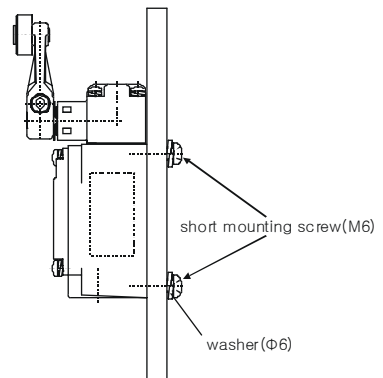
### <Surface Mounting>



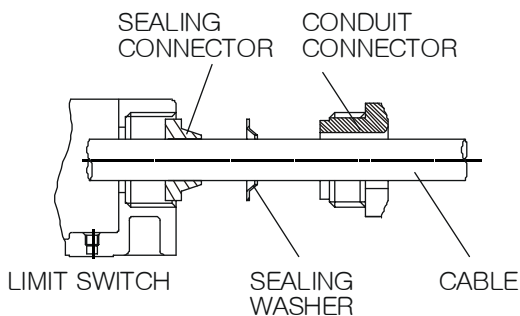
### <Through hole mounting>



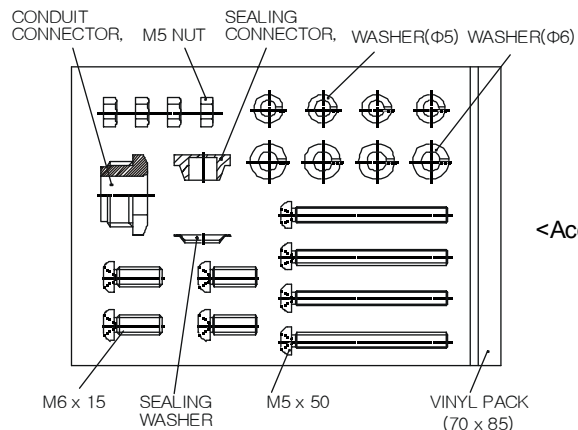
### <Rear mounting>



## ■ Sealing/Mounting Accessory



### <Use of Conduit Sealing Accessory>



### <Accessory Package>

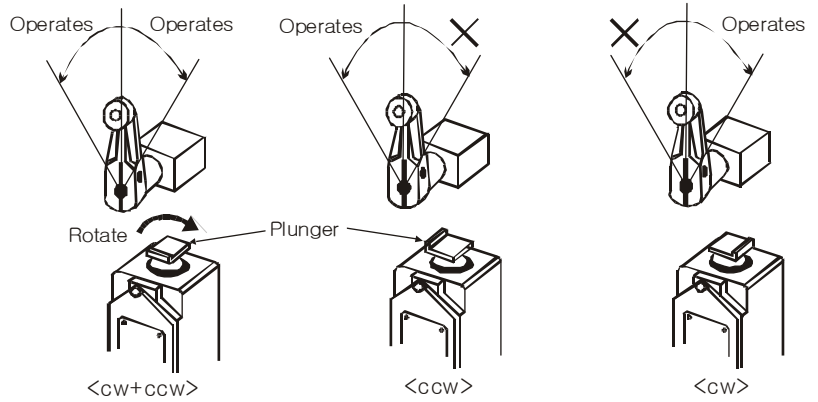
# General Purpose Limit Switch

# SZL-WL series

## ■ One Side Action Mode

### <Standard/High precision type>

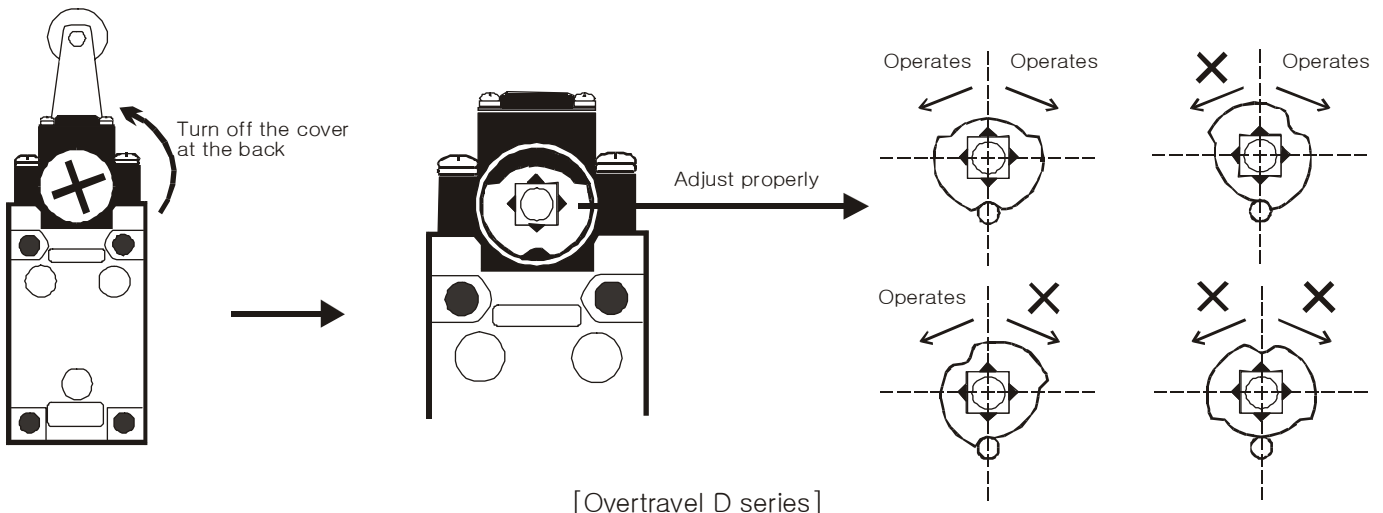
All side rotary switches of Standard type and High-Precision type can be set to actuate one side only. Clockwise and counterclockwise mode is Available by rotating the plunger inside the operating head as shown in the picture to the right.



[Standard Type / High Precision Type]

### <Overtravel D series>

Every listing of overtravel D series switches can be set to one side action mode by rotating the cam inside the operating head as shown in the picture below.



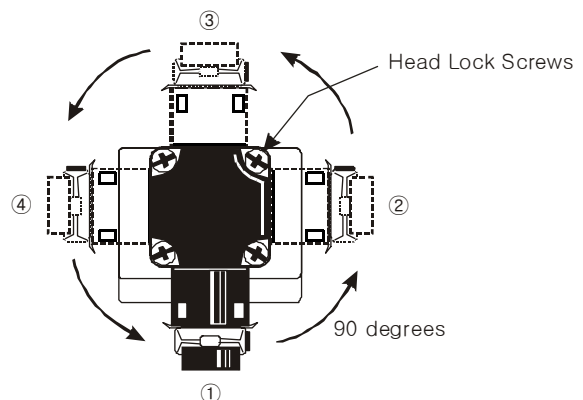
[Overtravel D series]

## ■ Operating Head Direction Change

### <90° Incremental Rotation>

Many types of SZL-WL 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 four head lock screws as shown in the picture to the right. This function is applied to all side rotary lever types and SZL-WL-D,P,E,G,H,J.

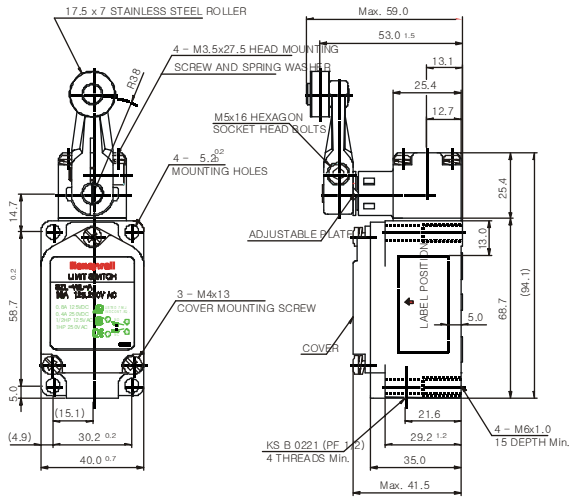
The head of overtravel D series can be set to direction ① and ③ only.



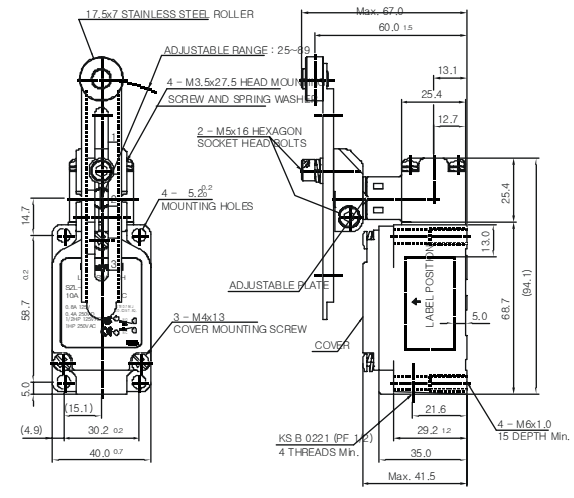
# General Purpose Limit Switch

# SZL-WL series

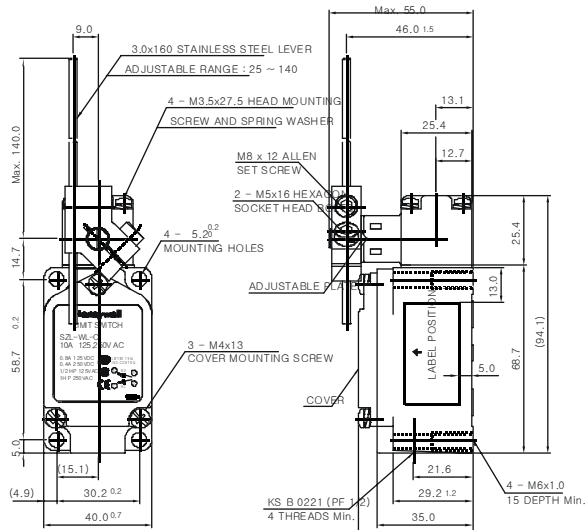
## ■ Dimensions



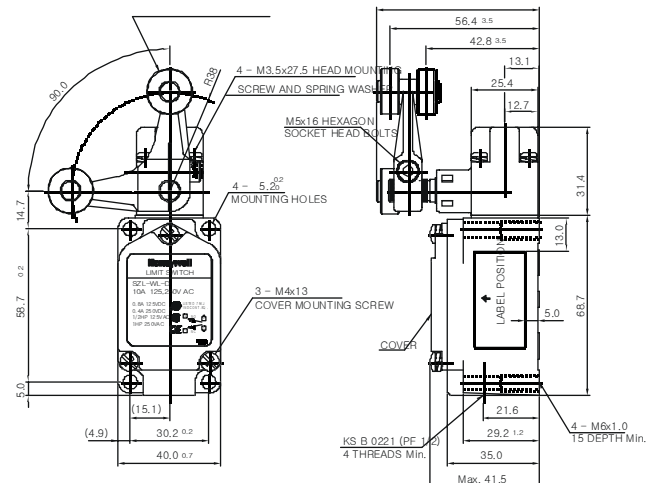
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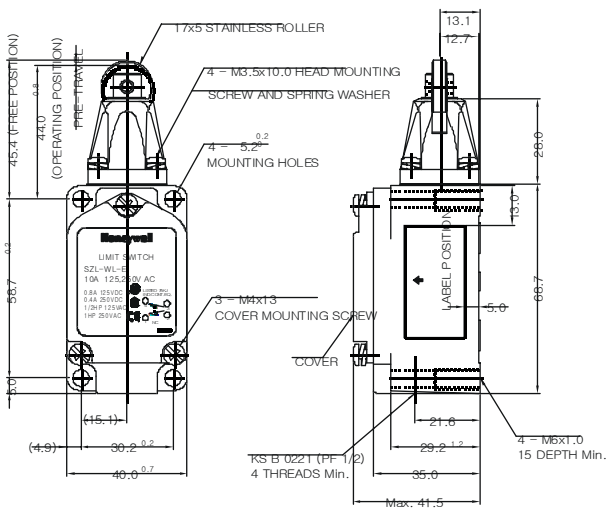
<SZL-WL-B>



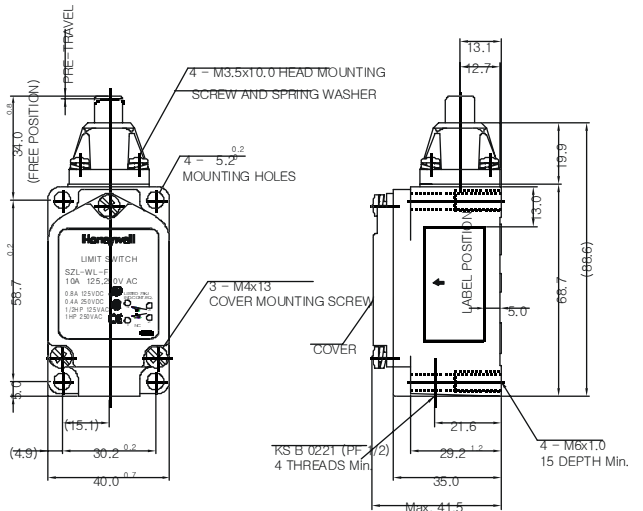
<SZL-WL-C>



<SZL-WL-D,P>



<SZL-WL-E>

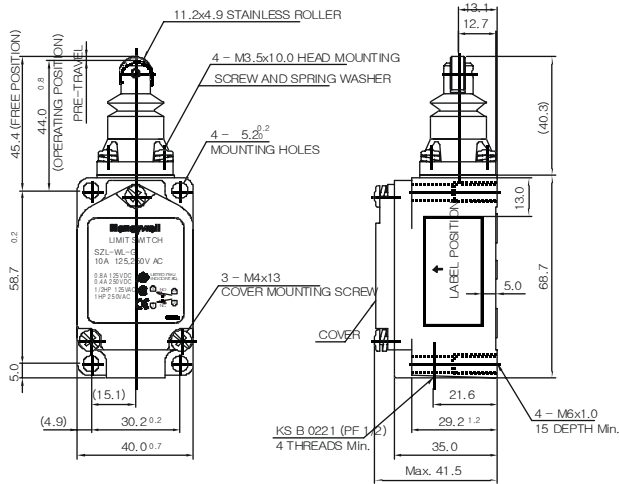


<SZL-WL-F>

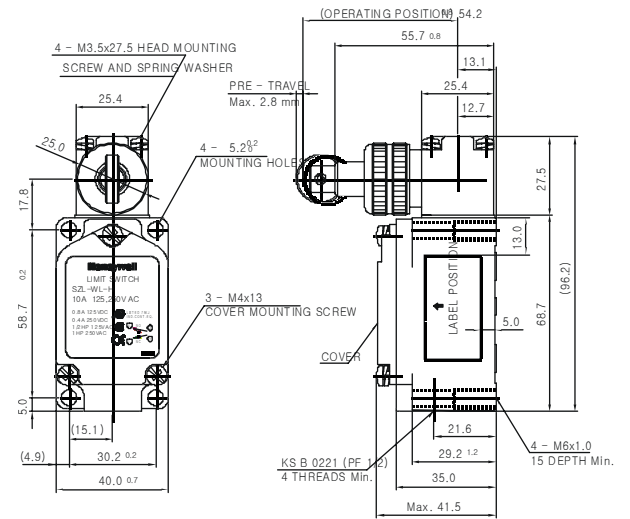


# General Purpose Limit Switch

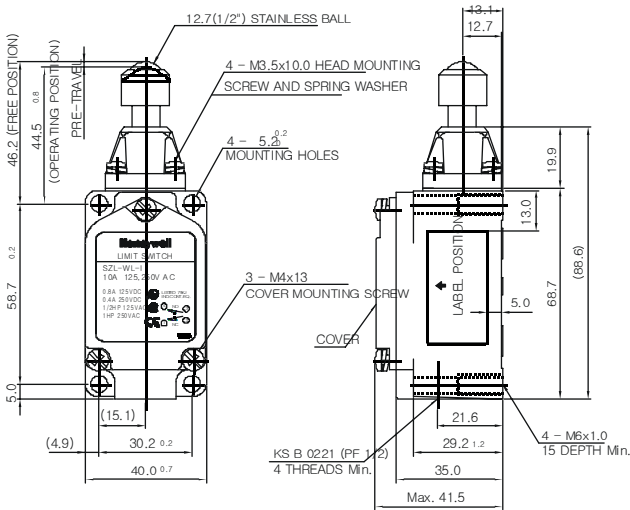
# SZL-WL series



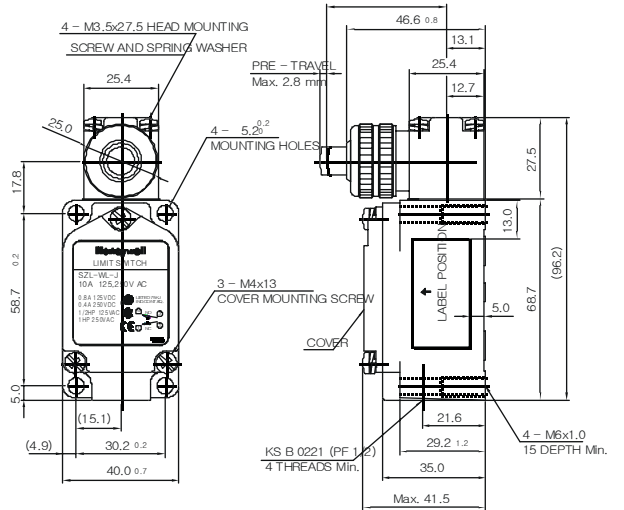
<SZL-WL-G>



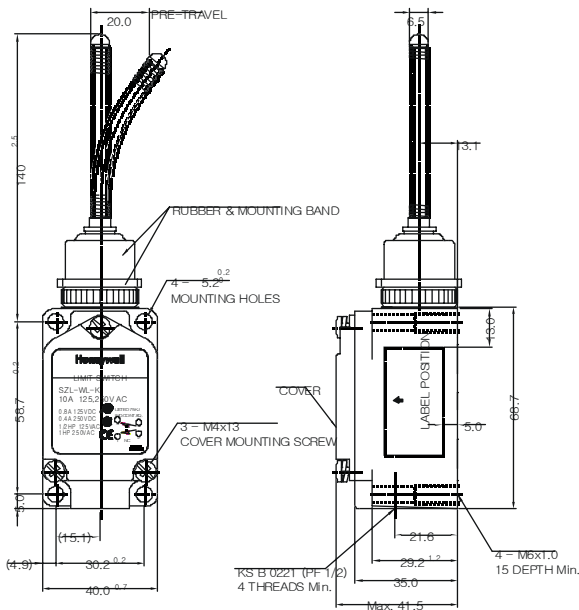
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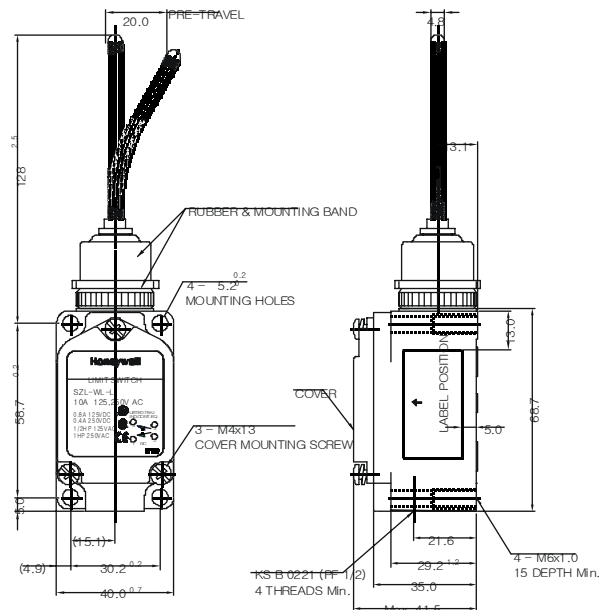
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<SZL-WL-J>



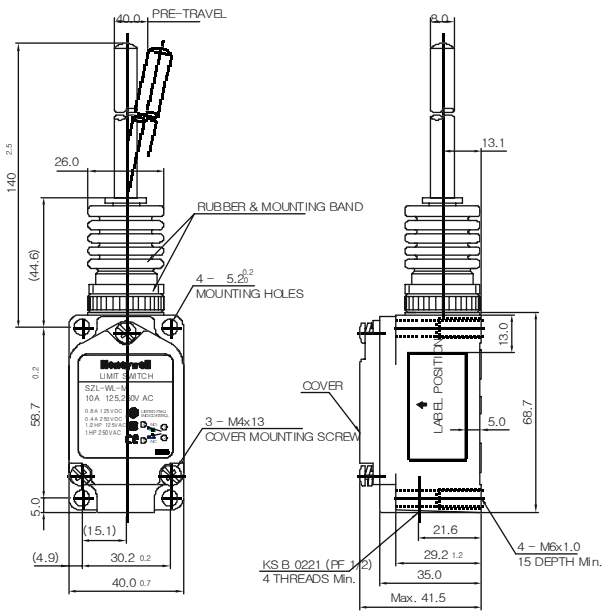
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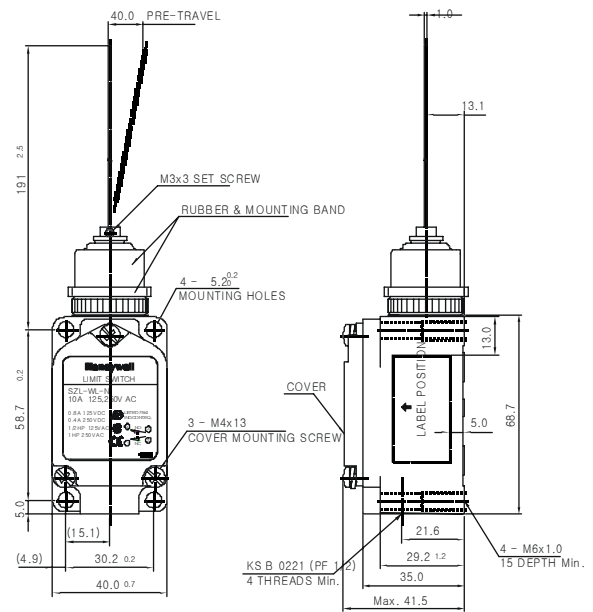
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# General Purpose Limit Switch

# SZL-WL series

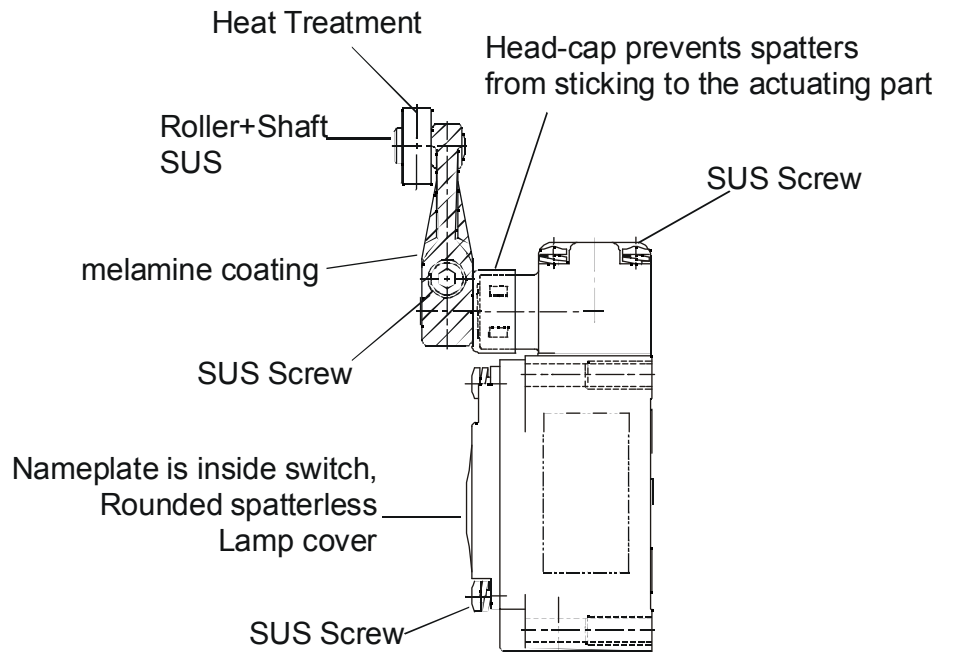


<SZL-WL-M>



<SZL-WL-N>

- Weld-immune types ( special type dedicated to welding lines primarily for automotive factory floor )



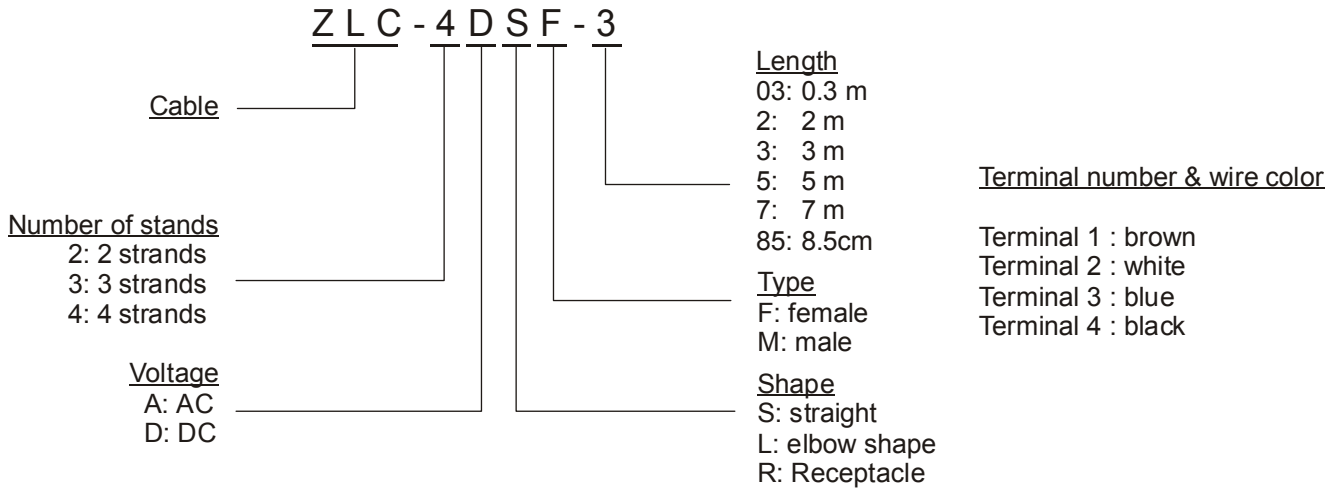
SZL-WL-A-LLE

# General Purpose Limit Switch

# SZL-WL series

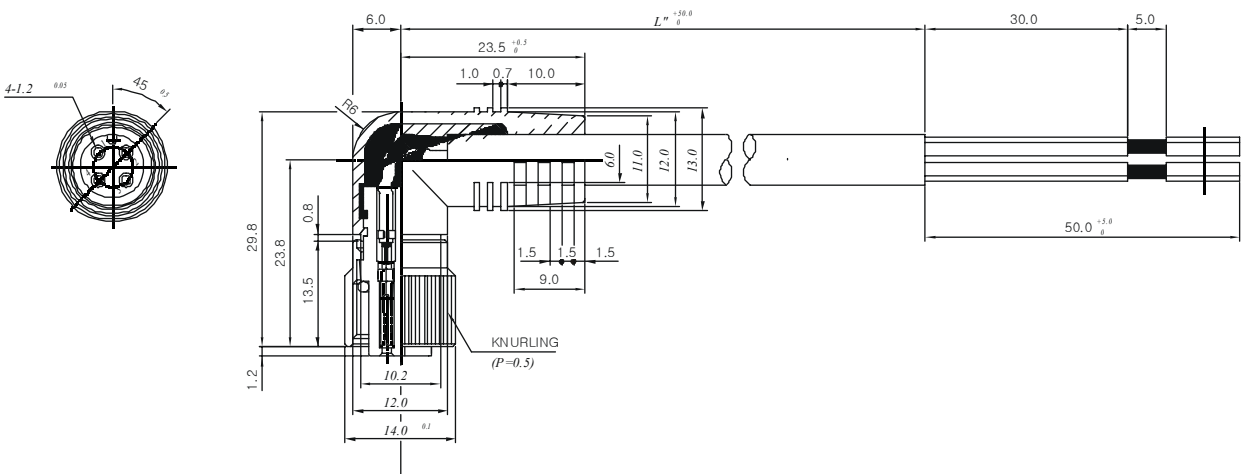
## CABLES AND CONNECTORS

### ■ Cables/Receptacle



### ■ Usage and Dimensions

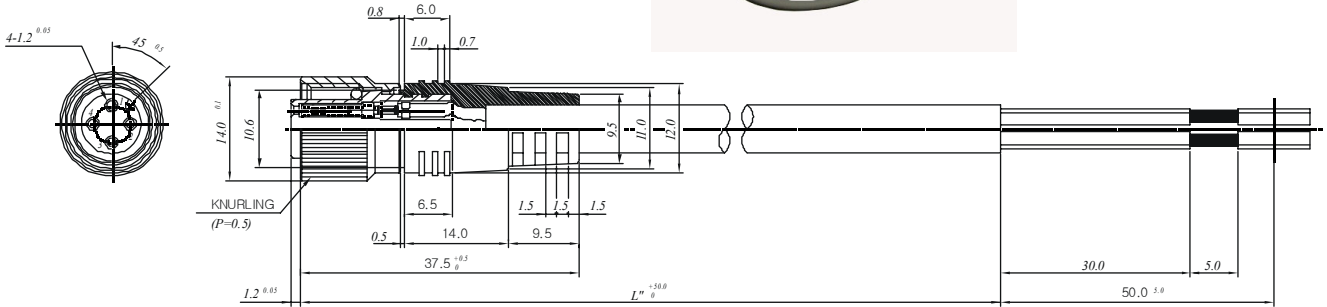
ZLC-4DLF-□



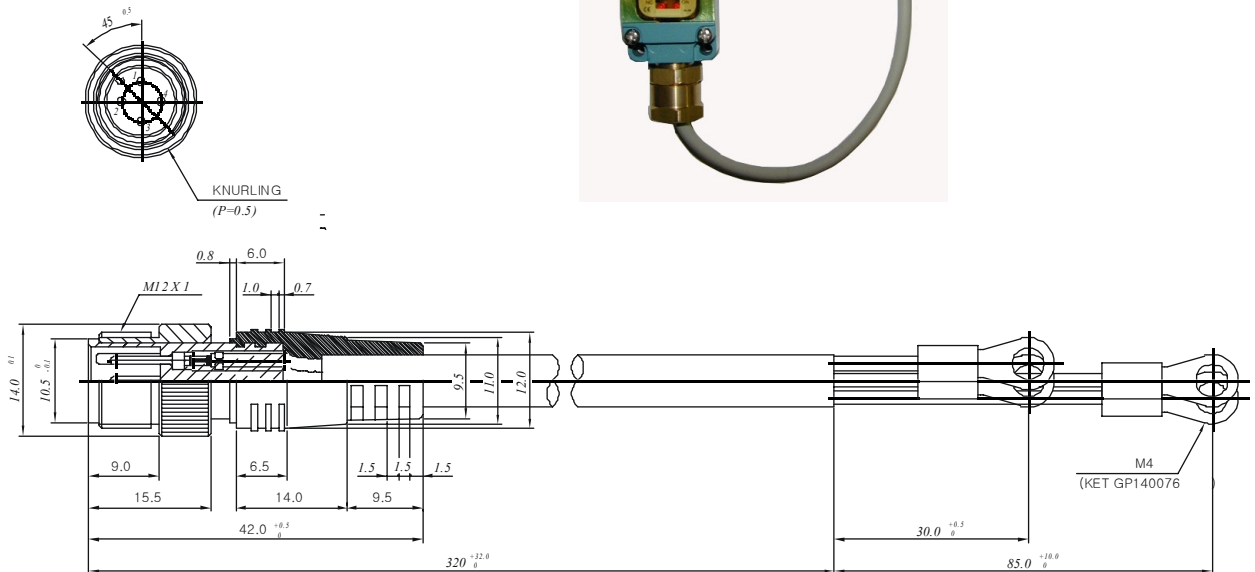
# General Purpose Limit Switch

# SZL-WL series

ZLC-4DSF-□



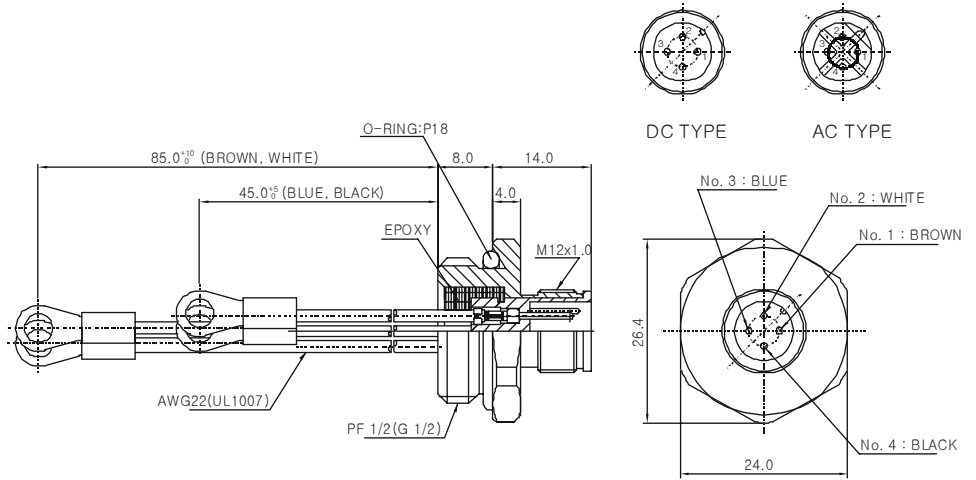
ZLC-4DSM-□



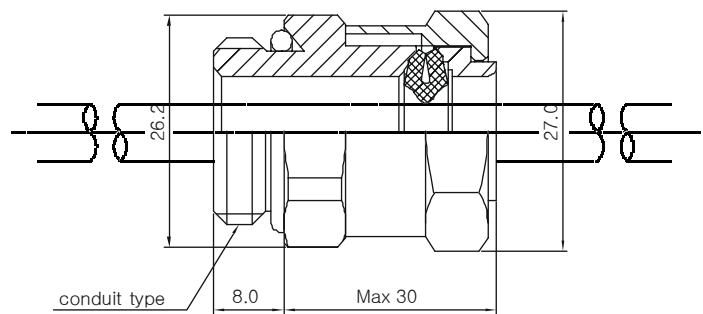
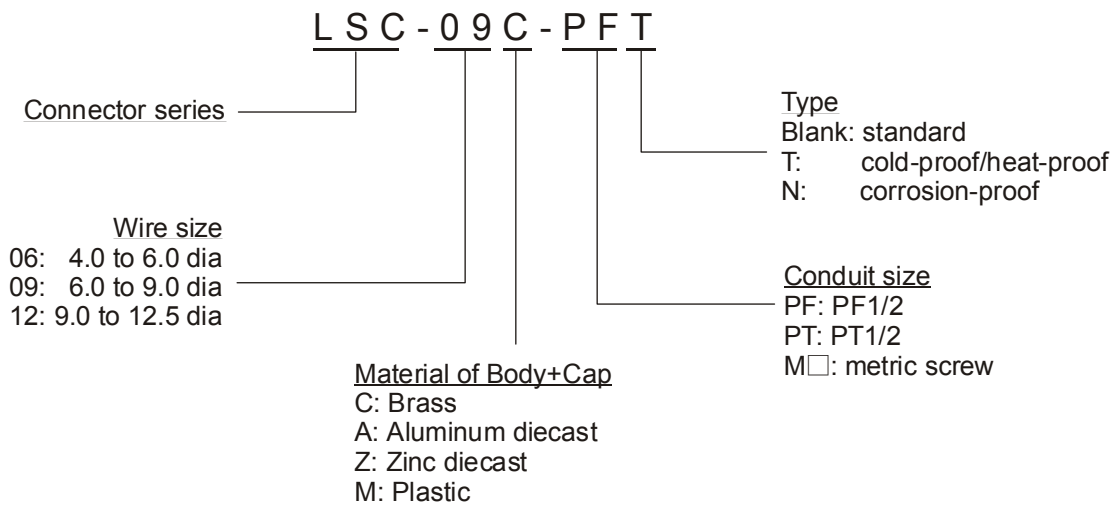
# General Purpose Limit Switch

# SZL-WL series

ZLC-4DRM-85



## Seal Connector



# General Purpose Limit Switch

# SZL-WL series

## 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.

## Sales and Service

Honeywell serves its customers through a worldwide network of sales offices and distributors. For application assistance, current specifications, pricing, or name of the nearest Authorized Distributor, contact your local sales office or:

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