

MICRO SWITCH™
General Purpose Limit Switches
SZL-WL Series



MICRO SWITCH™ SZL-WL Series

General Purpose Limit Switches

MICRO SWITCH™ SZL-WL Series general purpose limit switches are cost effective switches that may be used in a wide range of applications from general purpose conveyors to heavy-duty machinery. Rugged and reliable, the SZL-WL Series switches are specially designed for world-wide use and supported by Honeywell's vast experience in serving industries around the globe.

High quality product offerings combined with Honeywell's global sales and service resources makes the SZL-WL Series the smart choice for industries whose goal is to minimize plant downtime and reduce overall maintenance costs.

What makes our switches better?

- Small size and universal mounting footprint typically allows for use in constricted spaces and reduces replacement costs by providing interchangeability with similar style switches
- Wide variety of actuator heads and an assortment of actuators typically allows the SZL-WL Series to be applied in many types of applications
- IP67 construction often allows for use in dusty and dirty indoor and outdoor applications
- Mechanical service life of up to 10,000,000 operations promotes the durability required for use in many types of industries from factory floor to agriculture and/or machinery



COST OPTIMIZATION • EASE OF USE
RELIABILITY • GLOBAL ACCEPTANCE

Features and Benefits

Robust and reliable.

INDUSTRIAL GLOBAL DESIGN

The SZL-WL Series is designed to the EN50041 mounting standard which promotes interchangeability between other brands of limit switches.

TWO CIRCUIT DOUBLE BREAK CONTACTS

The SZL-WL Series promotes reliable switching under industrial 10 amp current loads and typically allows end users the ability to control two circuits within one switch.

WIDE CHOICE OF ACTUATORS

Honeywell's SZL-WL Series offers side rotary, top and side plunger, and wobble stick style actuators that makes the switch reasonably adaptable to numerous types of applications.

OIL TIGHT, WATER TIGHT, DUST TIGHT

IP67 sealing protects against dust and moisture, and allows the SZL-WL Series to be used in dirty and rugged environments found in both indoor and outdoor applications.

Potential Applications



INDUSTRIAL

- Counting and position sensing on conveyors and assembly lines
- Fixture and tooling position sensing on automated metal removing machines
- Position indication on electric valves on pipelines
- Position indication on dampers, fume hoods, and HVAC/R equipment
- Truck ramp position and elevator car position/leveling control



SZL-WL Series

PRODUCT NOMENCLATURE

Figure 1. SZL-WL for Asia-Pacific Use Only

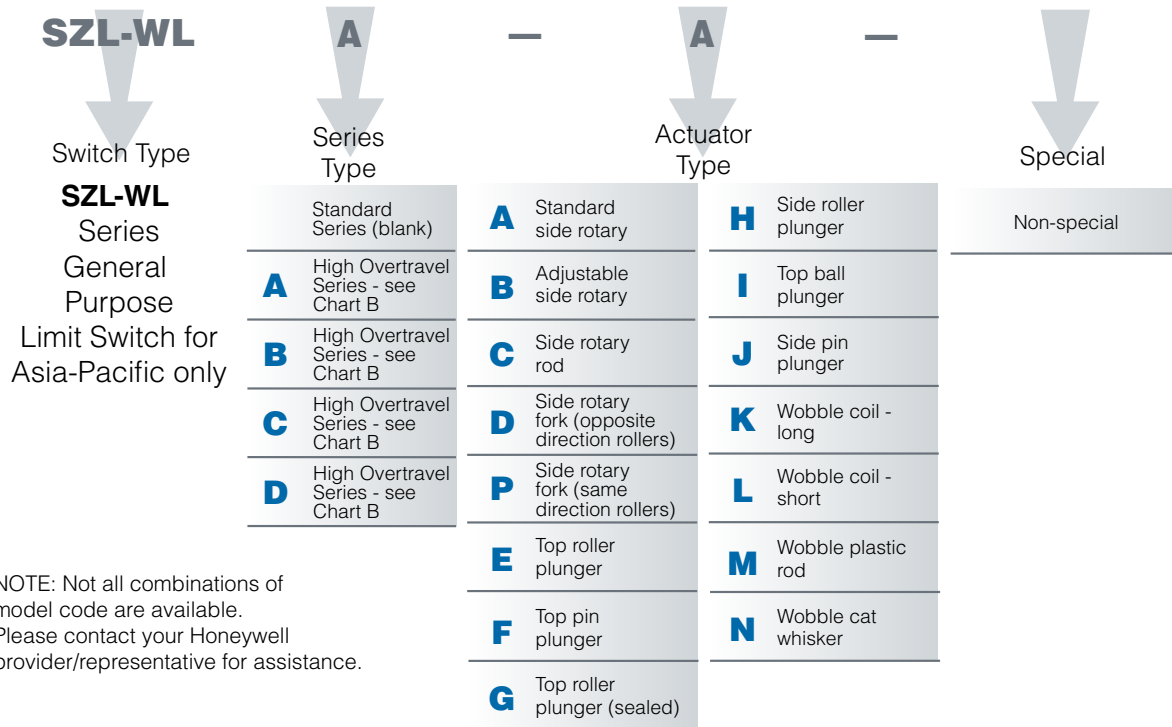
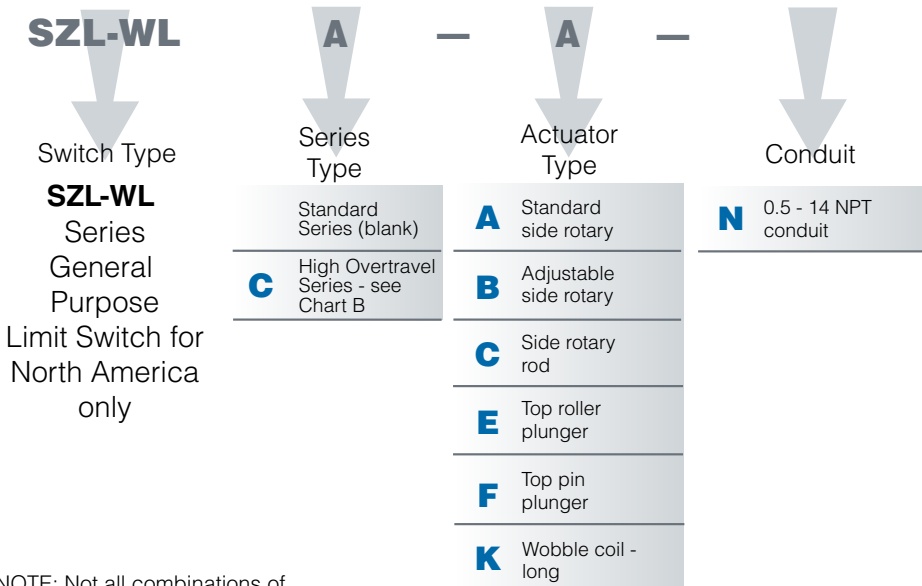


Figure 2. SZL-WL for North American Use Only



MICRO SWITCH™ General Purpose Limit Switches

Table 1. Chart A • Standard Type

| | WL-A | WL-B ¹ | WL-C ² | WL-D, P | WL-E | WL-F | WL-G |
|---------------------|---------------------|---------------------|-----------------------|----------------------|------------------------|------------------------|---------------------------|
| Pretravel | 15° ±5° | 15° ±5° | 15° ±5° | 50° ±5° | 1,7 mm [0.07 in] max. | 1,7 mm [0.07 in] max. | 1,7 mm [0.07 in] max. |
| Differential Travel | 12° | 12° | 12° | – | 1 mm [0.04 in] | 1 mm [0.04 in] | 1 mm [0.04 in] |
| Overtravel | 30° | 30° | 30° | 35° | 5,6 mm [0.22] | 6,4 mm [0.25] | 5,6 mm [0.22] |
| Total travel | 40° | 40° | 40° | 90° | – | – | – |
| Operating torque | 0,51 Nm [4.5 in-lb] | 0,51 Nm [4.5 in-lb] | 0,195 Nm [1.72 in-lb] | 0,447 Nm [4.0 in-lb] | 26,67 N [6 lb] (force) | 26,67 N [6 lb] (force) | 16,67 N [3.75 lb] (force) |

| | WL-H | WL-I | WL-J | WL-K ³ | WL-L ³ | WL-M ³ | WL-N ³ |
|----------------------|------------------|-----------------------|-----------------------|----------------------------------|----------------------------------|---------------------------------|---------------------------------|
| Pretravel | 2,8 mm [0.11 in] | 1,7 mm [0.07 in] max. | 2,8 mm [0.11 in] max. | 20 mm ±10 mm [0.79 in ±0.039 in] | 20 mm ±10 mm [0.79 in ±0.039 in] | 40 mm ±20 mm [1.57 in ±0.79 in] | 40 mm ±20 mm [1.57 in ±0.79 in] |
| Differential travel | 1 mm [0.04 in] | 1 mm [0.04 in] | 1 mm [0.04 in] | – | – | – | – |
| Overtravel | 5,6 mm [0.22 in] | 6,4 mm [0.25 in] | 4,0 mm [0.16 in] | – | – | – | – |
| Total travel | 8,4 mm [0.33 in] | 9,2 mm [0.36 in] | 5,7 mm [0.22 in] | – | – | – | – |
| Operating force max. | 40,03 N [9 lb] | 26,67 N [6 lb] | 40,03 N [9 lb] | 1,47 N [0.33 lb] | 1,47 N [0.33 lb] | 1,47 N [0.33 lb] | 0,28 N [0.06 lb] |

¹ Operating characteristics of the WL-B are measured at the arm length of 38 mm [1.5 in]

² Operating characteristics of the WL-C are measured at the lever length of 140 mm [5.5 in]

³ Operating characteristics of these types are measured at the tip of the actuator

Table 2. Chart B • Overtravel/High Precision Type

| | WLA-A | WLB-A | WLA-B ¹ | WLB-B ¹ | WLA-C ² | WLB-C ² | WLC-A |
|-----------------------|---------------------|---------------------|---------------------|---------------------|-----------------------|-----------------------|---------------------|
| Pretravel | 18° ±4° | 10° (-1°/+2°) | 18° ±4° | 10° (-1°/+2°) | 18° ±4° | 10° (-1°/+2°) | 25° ±5° |
| Differential travel | 10° | 7° | 10° | – | 10° | 7° | 16° |
| Overtravel | 55° | 65° | 55° | 65° | 55° | 65° | 60° |
| Total travel | 80° | 80° | 80° | 80° | 80° | 80° | 90° |
| Operating torque max. | 0,37 Nm [3.3 in-lb] | 0,37 Nm [3.3 in-lb] | 0,37 Nm [3.3 in-lb] | 0,37 Nm [3.3 in-lb] | 0,398 Nm [3.52 in-lb] | 0,398 Nm [3.52 in-lb] | 0,34 Nm [3.0 in-lb] |

| | WLC-B ¹ | WLC-C ² | WLD-A | WLD-B ¹ | WLD-C ² | WLE-A | WLE-B | WLE-C |
|-----------------------|---------------------|----------------------|-----------------------|-----------------------|-----------------------|---------------------|---------------------|-----------------------|
| Pretravel | 25° ± 5° | 25° ± 5° | 20° max. | 20° max. | 20° max. | 6° ±1° | 5° (+2°/-0°) | 5° (+2°/-0°) |
| Differential travel | 16° | 16° | 10° | 10° | 10° | 3° | 3° | 3° |
| Overtravel | 60° | 60° | 70° | 70° | 70° | 40° | 40° | 40° |
| Total travel | 90° | 90° | 90° | 90° | 90° | 40° | 40° | 40° |
| Operating torque max. | 0,34 Nm [3.0 in-lb] | 0,36 Nm [3.16 in-lb] | 0,365 Nm [3.23 in-lb] | 0,365 Nm [3.23 in-lb] | 0,398 Nm [3.52 in-lb] | 0,51 Nm [4.5 in-lb] | 0,51 Nm [4.5 in-lb] | 0,195 Nm [1.72 in-lb] |

¹ Operating characteristics are measured at the arm length of 38 mm [1.5 in]

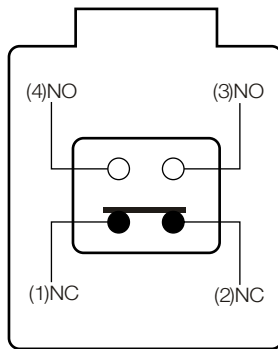
² Operating characteristics are measured at the lever length of 140 mm [5.5 in]

SZL-WL Series

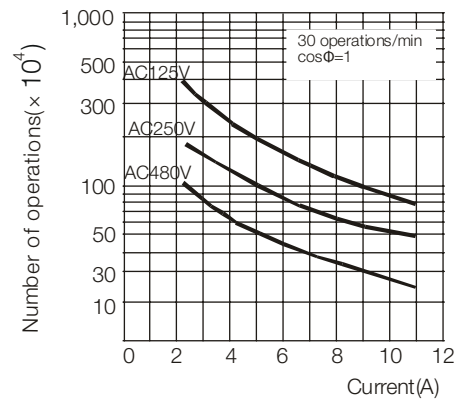
Table 3. Specifications

| Characteristic | Parameter |
|--------------------------------|--|
| Product type | Honeywell General Purpose Limit Switch |
| Actuators | side rotary, top roller plunger, top plunger, sealed top roller plunger, side roller plunger, side pin plunger, top ball plunger, wobble/cat whisker, wobble/plastic rod, wobble/coil spring |
| Circuitry | single pole double throw double break |
| Electrical | 10 A |
| Housing material | aluminum die-cast |
| Housing type | industrial |
| Conduit | PF 1/2, 1/2 in-14 NPT |
| Sealing | IP67 |
| Operating temperature | -10 °C to 80 °C [14 °F to 176 °F] |
| Mechanical life | 10,000,000 operations |
| Agency approvals and standards | UL, CE, CSA |
| Sealed | Industrial |

Circuitry (same polarity)



Electric Life Curve



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O.T. • Operating torque
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 P.T. • Pretravel
 O.T. • Overtravel
 D.T. • Differential travel

ORDER GUIDE/RECOMMENDED LISTINGS

Table 4. Product listings

| Part Number | Actuation | Note | O.T. Nm [in-lb] | Bar chart | P.T. (max.) | O.T. | D.T. (max.) | Conduit |
|--------------------|---|------|-----------------|-----------|-------------|------|-------------|------------|
| SZL-WL-A | side rotary standard lever, standard | - | 0,51 [4.5] | | 20° | 30° | 12° | PF 1/2 |
| SZL-WL-A-N | | | | | | | | 1/2 in NPT |
| SZL-WLA-A | side rotary standard lever, high overtravel | - | 0,37 [3.3] | | 22° | 55° | 10° | PF 1/2 |
| | | | | | | | | |
| SZL-WLB-A | side rotary standard lever, high overtravel | - | 0,37 [3.3] | | 12° | 65° | 7° | PF 1/2 |
| | | | | | | | | |
| SZL-WLC-A | side rotary standard lever, high overtravel | - | 0,34 [3.0] | | 30° | 60° | 16° | PF 1/2 |
| SZL-WLC-A-N | | | | | | | | 1/2 in NPT |
| SZL-WLD-A | side rotary standard lever, high overtravel | - | 0,37 [3.23] | | 20° | 70° | 10° | PF 1/2 |
| | | | | | | | | |
| SZL-WLE-A | side rotary standard lever, high precision | 1 | 0,51 [4.5] | | 7° | 40° | 3° | PF 1/2 |
| | | | | | | | | |

Note:

1. Operating characteristics are measured at the actuator arm length of 38 mm [1.5 in]



SZL-WL Series

O.T. • Operating torque
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 O.T. • Overtravel
 D.T. • Differential travel

Table 4. Product listings, continued

| Part Number | Actuation | Note | O.T. Nm [in-lb] | Bar chart | P.T. (max.) | O.T. | D.T. (max.) | Conduit |
|--------------------|---|------|-----------------|-----------|-------------|------|-------------|------------|
| SZL-WL-B | side rotary adjustable lever, standard | 1 | 0,51 [4.5] | | 20° | 30° | 12° | PF 1/2 |
| SZL-WL-B-N | | | | | | | | 1/2 in NPT |
| SZL-WLA-B | side rotary adjustable lever, high overtravel | 1 | 0,37 [3.3] | | 22° | 55° | 10° | PF 1/2 |
| SZL-WLB-B | side rotary adjustable lever, high overtravel | 1 | 0,37 [3.3] | | 12° | 65° | 7° | PF 1/2 |
| SZL-WLC-B | side rotary adjustable lever, high overtravel | 1 | 0,34 [3.0] | | 30° | 60° | 16° | PF 1/2 |
| SZL-WLC-B-N | | | | | | | | 1/2 in NPT |
| SZL-WLD-B | side rotary adjustable lever, high overtravel | 1 | 0,37 [3.23] | | 20° | 70° | 10° | PF 1/2 |
| SZL-WLE-B | side rotary adjustable lever, high precision | 2 | 0,51 [4.5] | | 5° | 40° | 3° | PF 1/2 |

Notes:

1. Operating characteristics are measured at the actuator arm length of 38 mm [1.5 in]
2. Operating characteristics are measured at the actuator arm length of 140 mm [5.5 in]

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O.T. • Operating torque
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Table 4. Product listings, continued


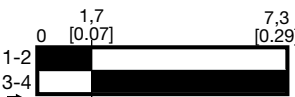


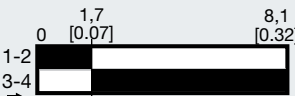
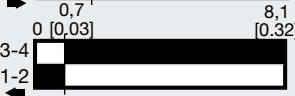

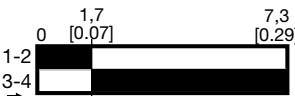

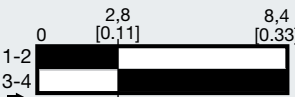

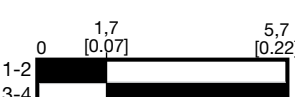

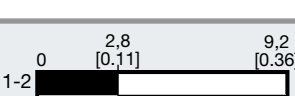
| Part Number | Actuation | Note | O.T. Nm [in-lb] | Bar chart | P.T. (max.) | O.T. | D.T. (max.) | Conduit |
|------------------------------------|---|------|-----------------|----------------------------------|-------------|------|-------------|------------|
| SZL-WL-C | side rotary rod adjustable, standard | 2 | 0,195 [1.72] | 0° 20° 50° | 20° | 30° | 12° | PF 1/2 |
| SZL-WL-C-N | | | | 0° 8° 50° | | | | 1/2 in NPT |
| SZL-WLA-C | side rotary rod adjustable, high overtravel | 2 | 0,398 [3.52] | 0° 22° 77° 0° 12° 77° | 22° | 55° | 10° | PF 1/2 |
| SZL-WLB-C | side rotary rod adjustable, high overtravel | 2 | 0,398 [3.52] | 0° 12° 77° 0° 5° 77° | 12° | 65° | 7° | PF 1/2 |
| SZL-WLC-C | side rotary rod adjustable, high overtravel | 2 | 0,38 [3.16] | 0° 30° 70° | 30° | 40 | 16° | PF 1/2 |
| SZL-WLC-C-N | | | | 0° 14° 70° | | | | 1/2 in NPT |
| SZL-WLD-C | side rotary rod adjustable, high overtravel | 2 | 0,398 [3.52] | 0° 20° 90° 0° 10° 90° | 20° | 70° | 10° | PF 1/2 |
| SZL-WLE-C | Side rotary rod adjustable, high precision | 1 | 0,195 [1.72] | 0° 5° 45° 0° 2° 45° | 5° | 40° | 3° | PF 1/2 |
| SZL-WL-D SZL-WL-P | fork lock lever, opposite direction rollers (-D); same direction rollers (-P) | | 0,447 [4.0] | 0° 55° 90° 0° 55° 90° | 55° | 35° | - | PF 1/2 |

Notes:
 1. Operating characteristics are measured at the actuator arm length of 38 mm [1.5 in]
 2. Operating characteristics are measured at the actuator arm length of 140 mm [5.5 in]

SZL-WL Series

O.T. • Operating torque
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Table 4. Product listings, continued

| | Part Number | Actuation | Note | O.F. N [lb] | Bar chart | P.T. (max.) | O.T. | D.T. (max.) | Conduit |
|---|-------------------|----------------------------|------|-----------------|--|---------------------|---------------------|-------------------|---------------|
|  | SZL-WL-E | top roller plunger | - | 26,67 [6.0] |  | 1,7 mm [0.07 in] | 5,6 mm [0.22 in] | 1 mm [0.04 in] | PF 1/2 |
| | SZL-WL-E-N | | | |  | | | | 1/2 in NPT |
|  | SZL-WL-F | top plunger | - | 26,67 [6.0] |  | 1,7 mm [0.07 in] | 6,4mm [0.25 in] | 1 mm [0.04 in] | PF 1/2 |
| | SZL-WL-F-N | | | |  | | | | 1/2 in NPT |
|  | SZL-WL-G | top roller plunger, sealed | - | 16,67 [3.75] |  | 1,7 mm [0.07 in] | 5,6 mm [0.22 in] | 1 mm [0.04 in] | PF 1/2 |
|  | SZL-WL-H | side roller plunger | - | 40,03 [9.0] |  | 2,8 mm [0.11 in] | 5,6 mm [0.22 in] | 1 mm [0.04 in] | PF 1/2 |
|  | SZL-WL-I | top ball plunger | - | 26,67 [6.0] |  | 1,7 mm [0.07 in] | 4 mm [0.157 in] | 1 mm [0.04 in] | PF 1/2 |
|  | SZL-WL-J | side plunger | - | 40,03 [9.0] |  | 2,8 mm [0.11 in] | 6,4 mm [0.25 in] | 1 mm [0.04 in] | PF 1/2 |

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Table 4. Product listings, continued

| | Part Number | Actuation | Note | O.F. N [lb] | Bar chart | P.T. (max.) | O.T. | D.T. (max.) | Conduit |
|---|-------------------|--|------|----------------|-----------|--|------|----------------|---------------|
|  | SZL-WL-K | wobble-coil spring Ø 6,5 mm [Ø 0.256 in] | 3, 4 | 1,47 [0.33] | - | 20 mm ±10 mm [0.79 in ±0.39 in] | - | - | PF 1/2 |
| | SZL-WL-K-N | | | | | | | | 1/2 in NPT |
| | SZL-WL-L | wobble-coil spring Ø 4,8 mm [Ø 0.189 in] | 3, 4 | 1,47 [0.33] | - | 20 mm ±10 mm [0.79 in ±0.39 in] | - | - | PF 1/2 |
|  | SZL-WL-M | wobble-plastic rod Ø 8,0 mm [Ø 0.315 in] | 3, 4 | 1,47 [0.33] | - | 40 mm ±20 mm [1.57 in ±0.79 in] | - | - | PF 1/2 |
|  | SZL-WL-N | wobble-steel wire Ø 1,0 mm [Ø 0.04 in] | 3, 4 | 0,28 [0.06] | - | 40 mm ±20 mm [1.57 in ±0.79 in] | - | - | PF 1/2 |

Notes:

1. Operating characteristics are measured at the actuator arm length of 38 mm [1.5 in]
2. Operating characteristics are measured at the actuator arm length of 140 mm [5.5 in]
3. Operating characteristics are measured at the tip of the actuator
4. Operating force is measured from the tip of the wobble

SZL-WL Series

DIMENSIONS mm [in]

Figure 1. SZL-WL-A

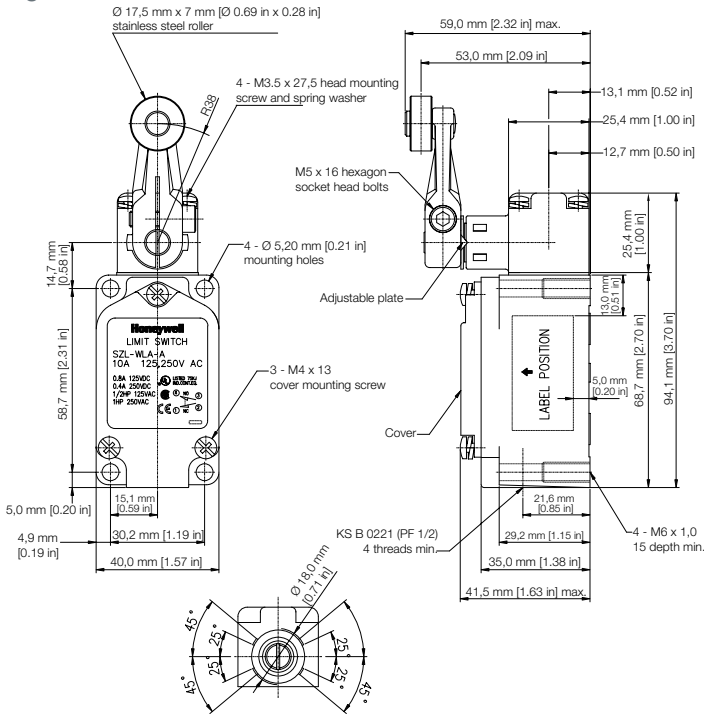


Figure 2. SZL-WL-B

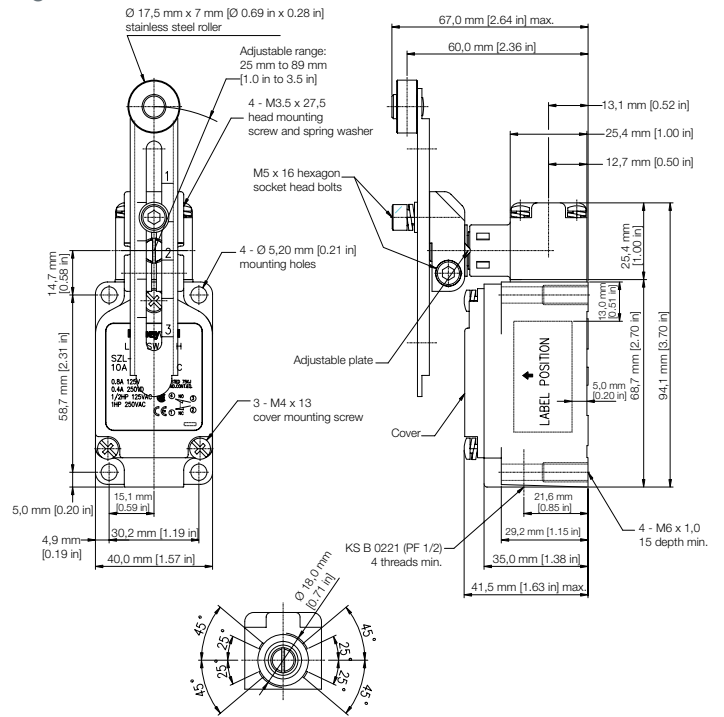


Figure 3. SZL-WL-C

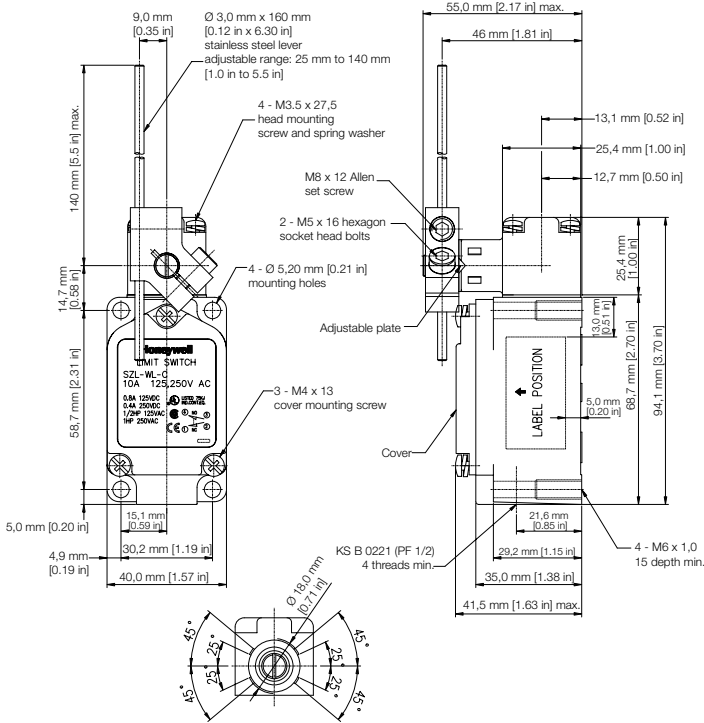
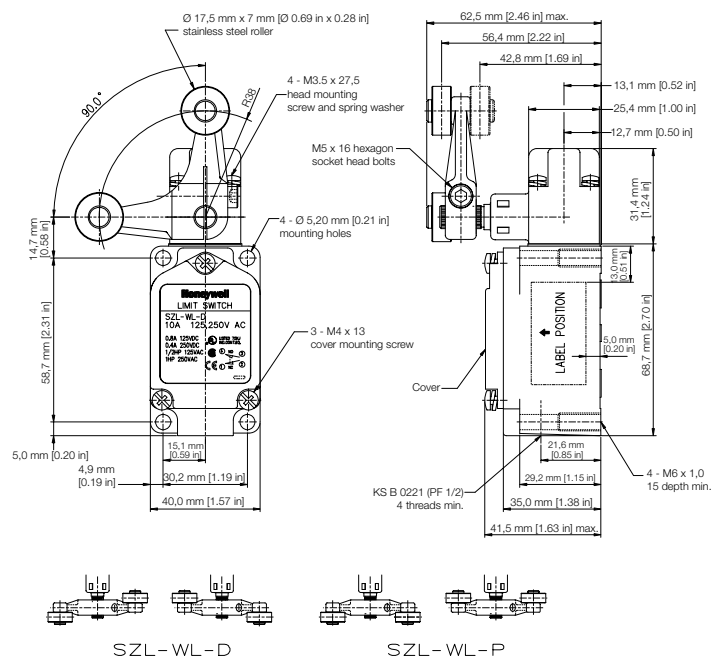


Figure 4. SZL-WL-D and SZL-WL-P



MICRO SWITCH™ General Purpose Limit Switches

DIMENSIONS mm [in]

Figure 5. SZL-VL-E

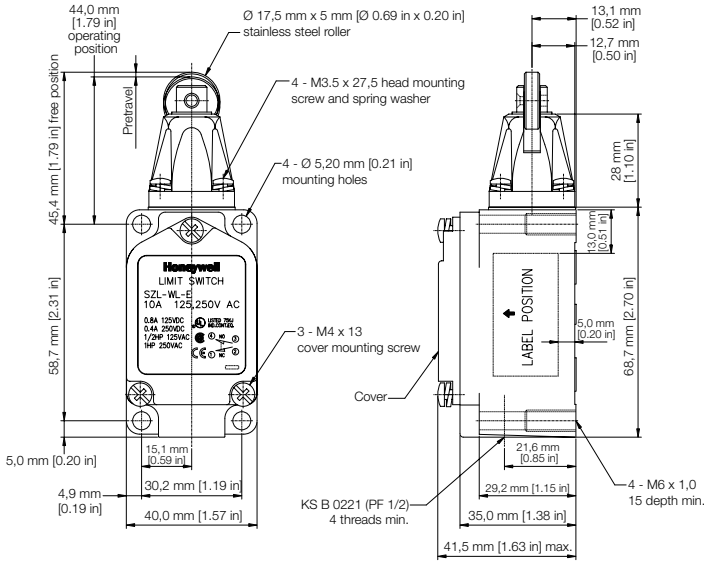


Figure 6. SZL-WL-F

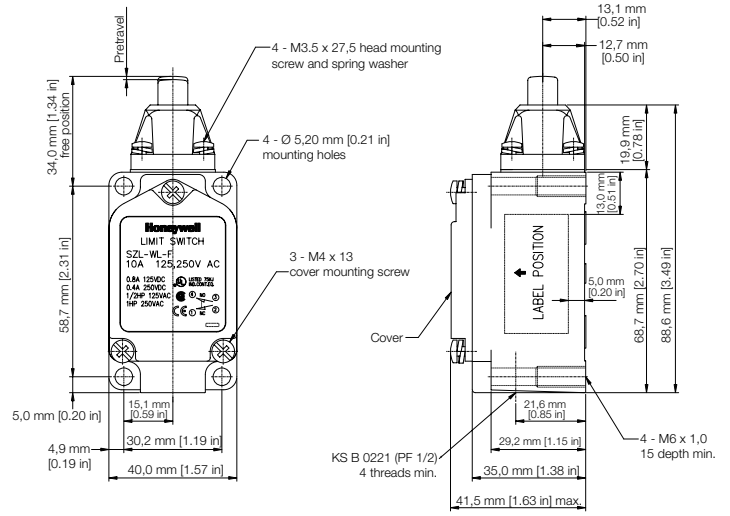


Figure 7. SZL-WL-G

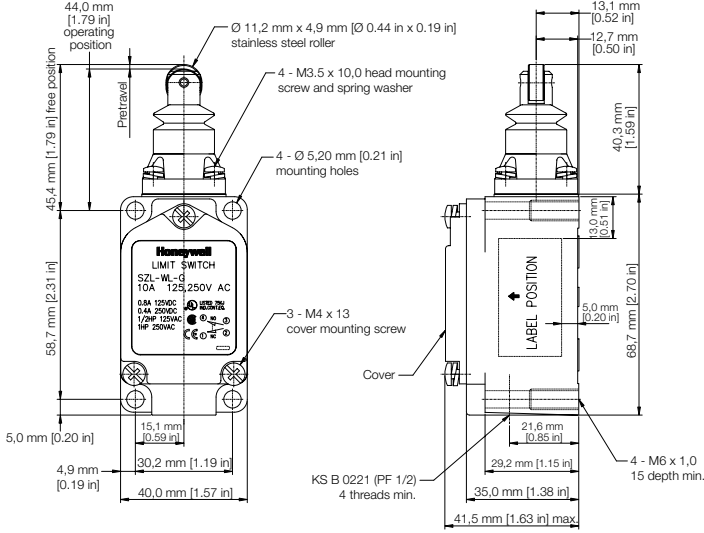
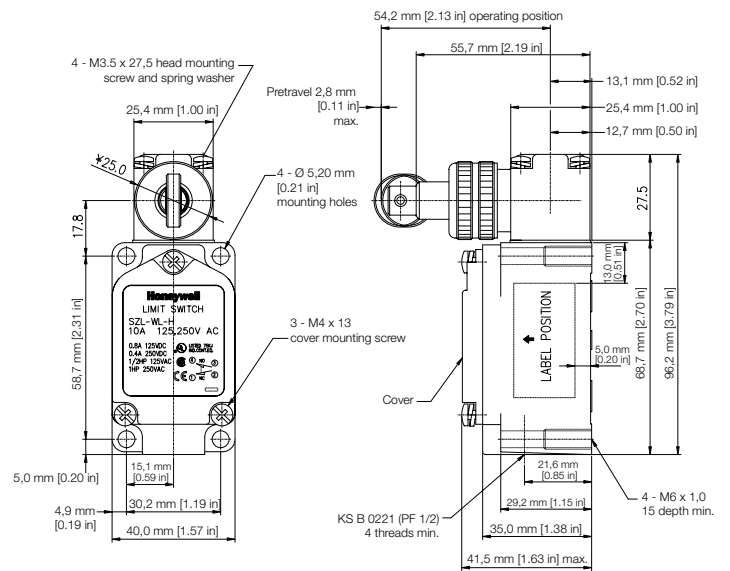


Figure 8. SZL-WL-H



SZL-WL Series

DIMENSIONS mm [in]

Figure 9. SZL-WL-I

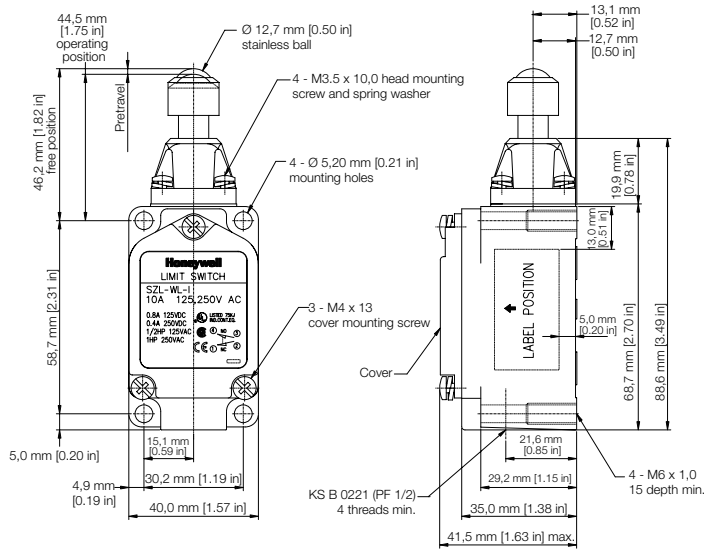


Figure 10. SZL-WL-J

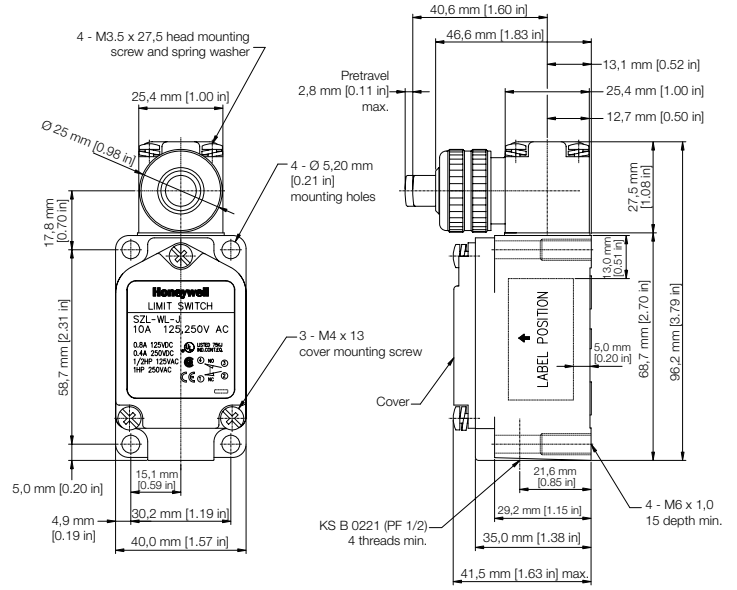


Figure 11. SZL-WL-K

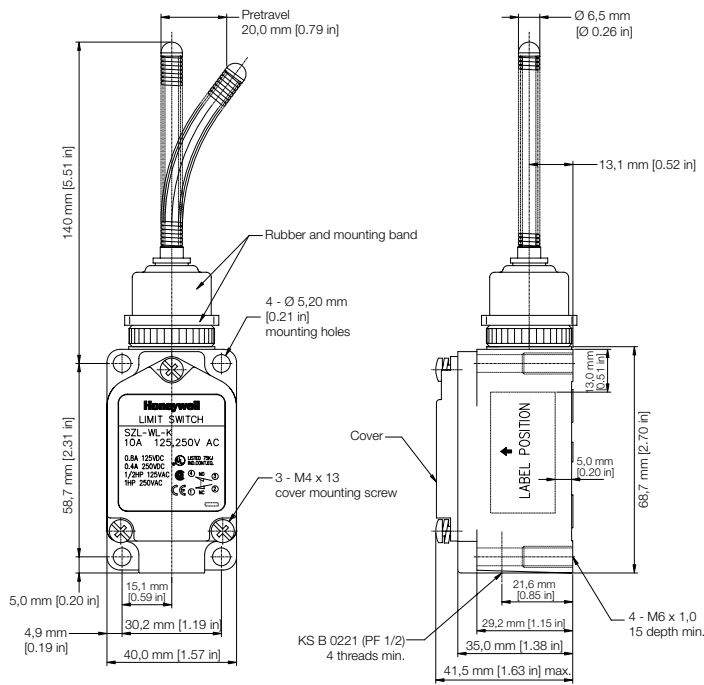
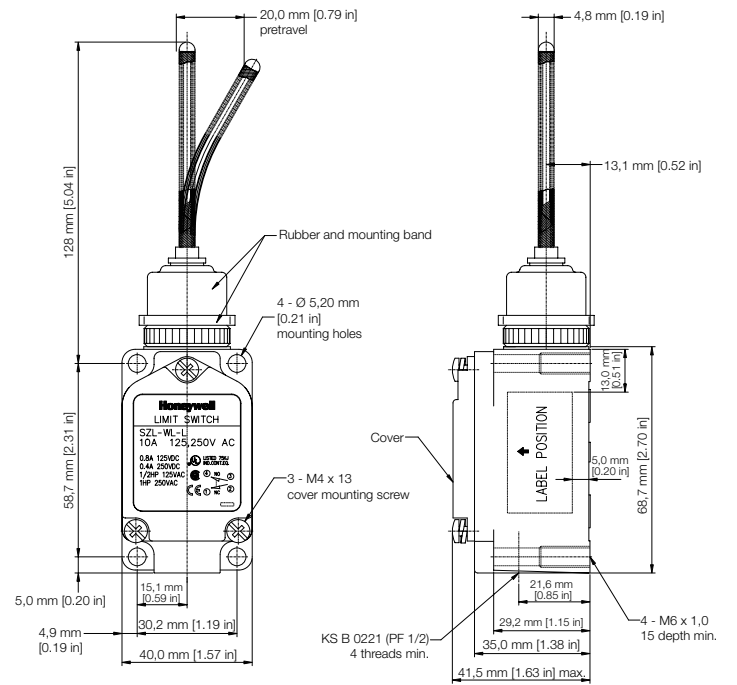


Figure 12. SZL-WL-L



MICRO SWITCH™ General Purpose Limit Switches

DIMENSIONS mm [in]

Figure 13. SZL-WL-M

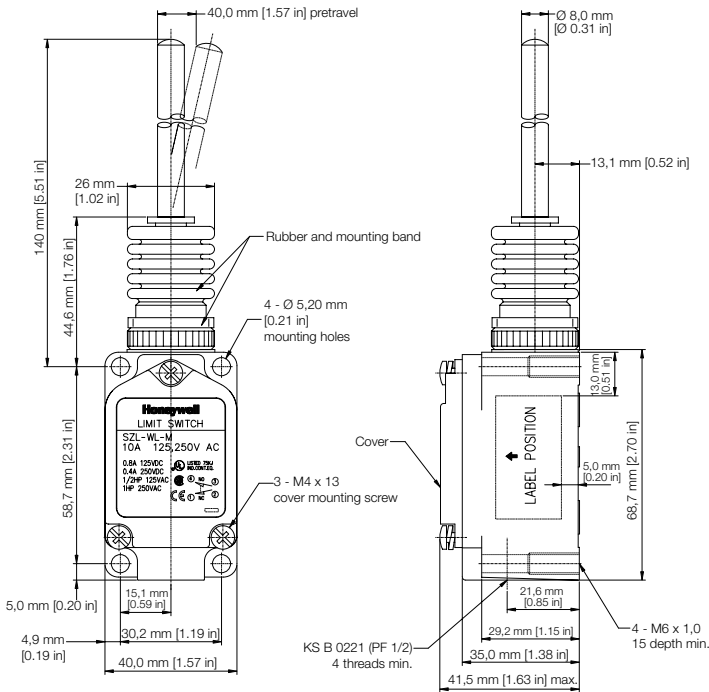
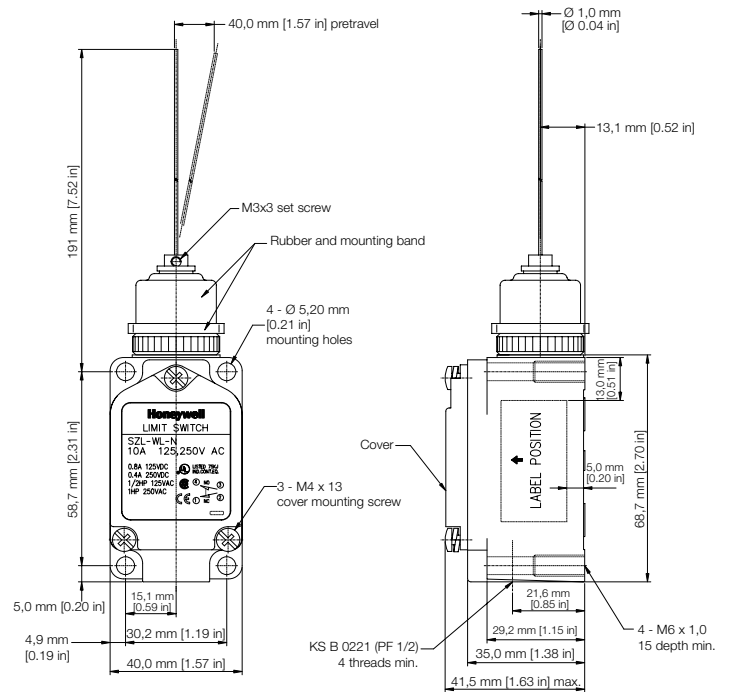


Figure 14. SZL-WL-N

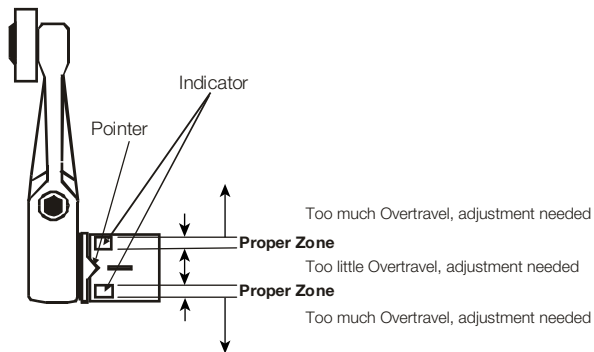


SET POSITION INDICATOR

Proper Operation Zone

- The two convex indicators on the shaft housing show the operating zones for proper operation, thereby, simplifying installation and maintenance.
- Too much over-travel may cause shortened mechanical life due to possible damage to the switch mechanism.

Figure 15. Side Rotary Proper Operation Zone



SZL-WL Series

MOUNTING DIMENSIONS

Figure 16. Surface Mount

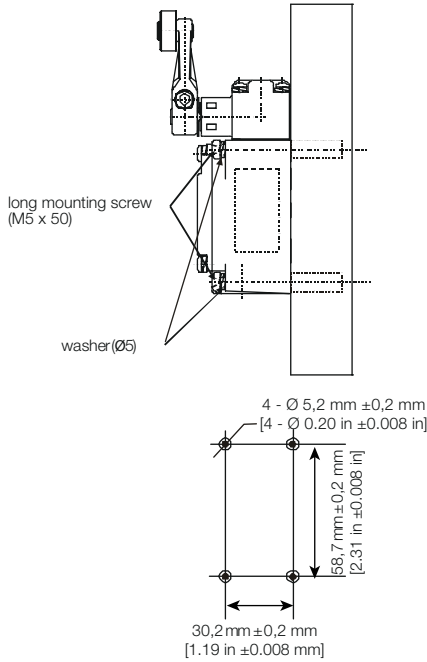


Figure 17. Through-Hole Mount

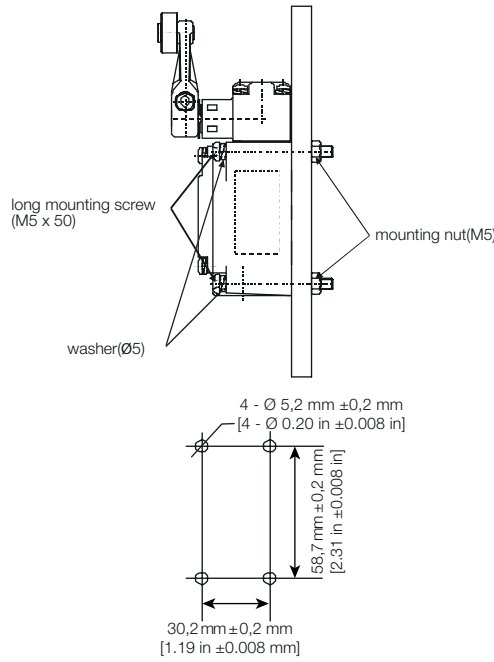
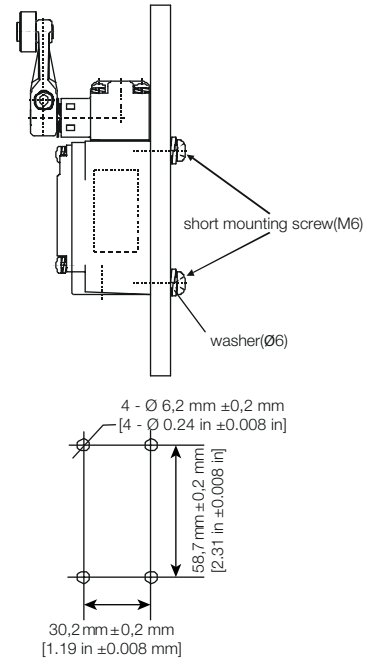


Figure 18. Rear Mount

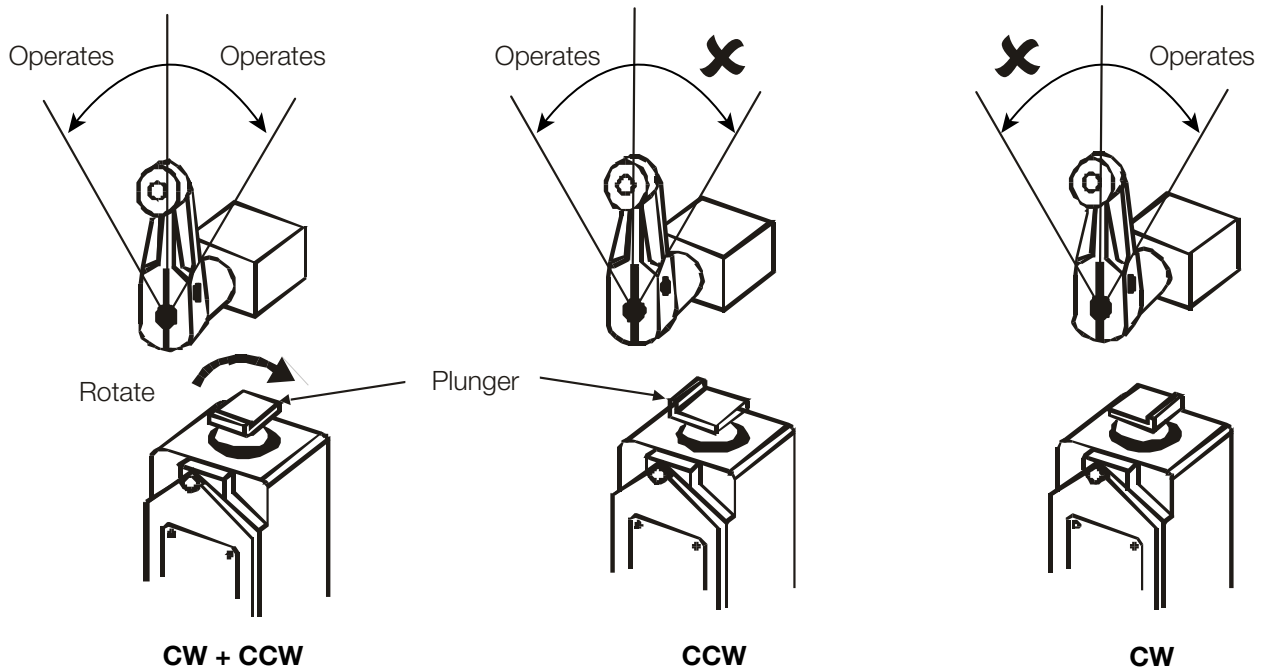


ADJUSTABLE OPERATING CHARACTERISTICS

Standard/High Precision Series

- All side rotary switches of Standard and High Precision models can be set to actuate on one side only. Clockwise and counterclockwise mode is available by rotating the plunger inside the operating head as shown below.

Figure 19. Standard/High Precision Type Switches

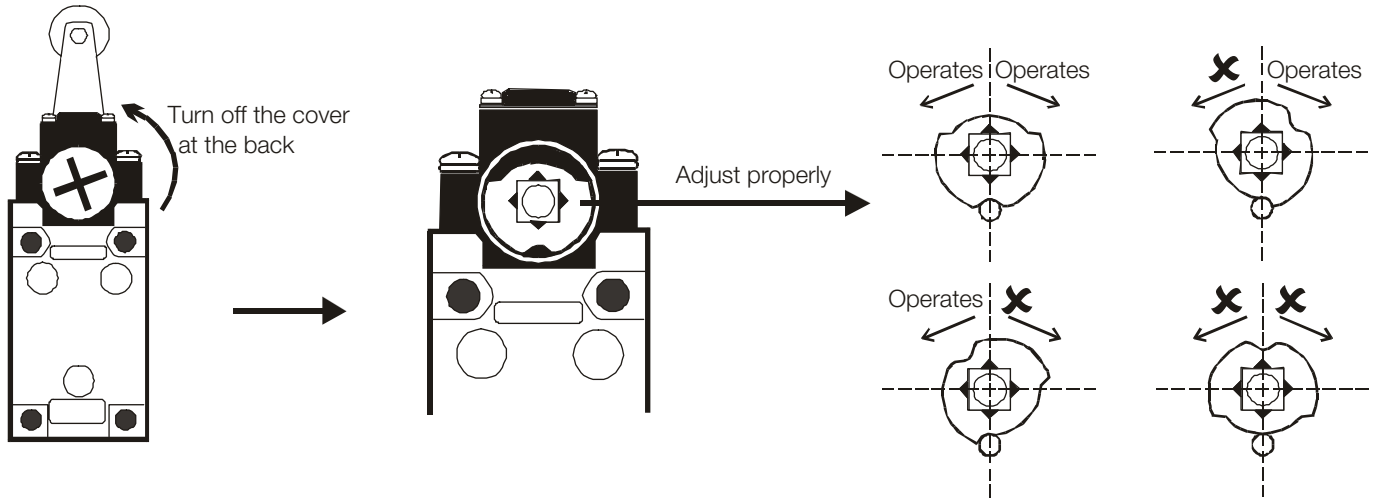


MICRO SWITCH™ General Purpose Limit Switches

OVERTRAVEL “D” SERIES

- The Overtravel “D” Series switches can be set to one side actuation mode by rotating the cam located inside the operating head as shown below.

Figure 20. Overtravel “D” Series



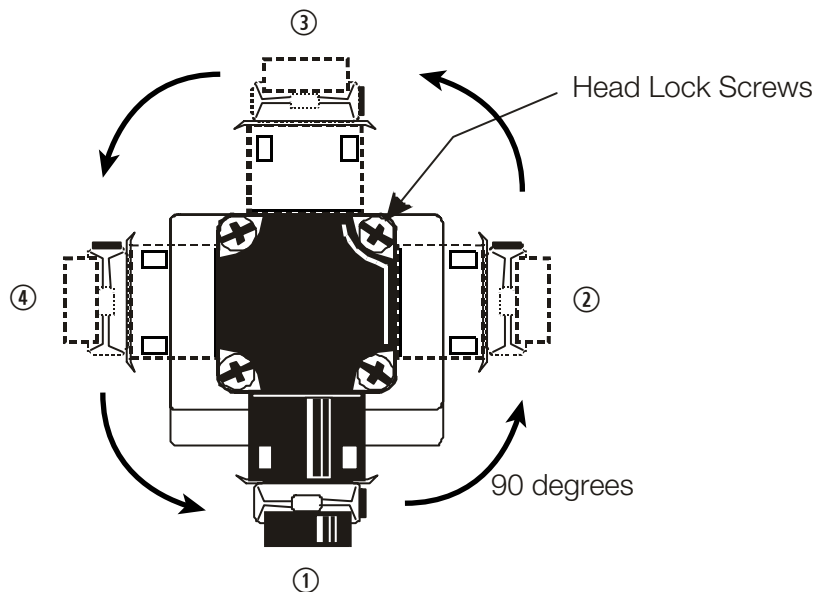
OPERATING HEAD DIRECTION CHANGE

90° Incremental Rotation

- Most SZL-WL –D, P, E, G, H, and J Series switches allow for the operating head to be rotated to any of the four positions indicated below. Loosen the four head lock screws and rotate the head to the desired position.

Note* The head of the Overtravel “D” Series can be set **ONLY** to directions **1** and **3**.

Figure 21. SZL-WL Head Rotation



SZL-WL Series

CABLES

Product Nomenclature

| | | | | | | | | |
|---|---|----------------------------|-------------|----------------------|-----------------|---|----------------------------|--|
| ZLC | — | 4 | D | S | D | — | 3 | |
| Cable | | Number of Strands | Voltage | Shape | Type | | Actuator Type | |
| ZLC Series | | 2 Two (2) strands | A ac | S Straight | F Female | | 03 0,3 m [11.80 in] | Terminal number and wire color Terminal 1: Brown Terminal 2: White Terminal 3: Blue Terminal 4: Black |
| Cable for use with SZL-WL Series Limit Switches | | 3 Three (3) strands | D dc | L Elbow shape | M Male | | 2 2 m [6.56 ft] | |
| | | 4 Four (4) strands | | | | | 3 3 m [9.84 ft] | |
| | | | | | | | 5 5 m [16.40 ft] | |
| | | | | | | | 7 7 m [22.96 ft] | |

Figure 22. ZLC-4DLF-__

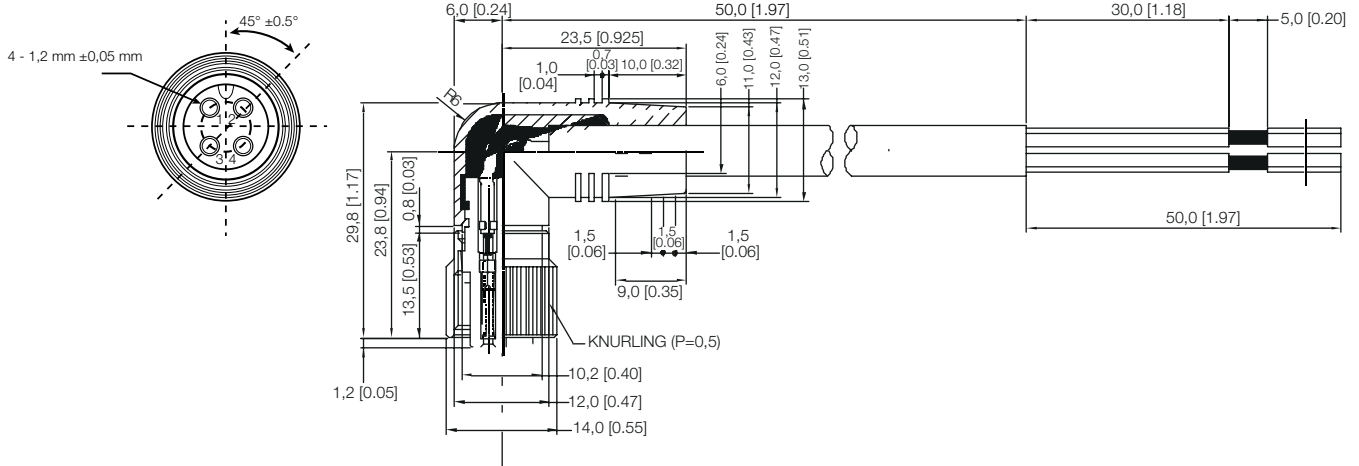
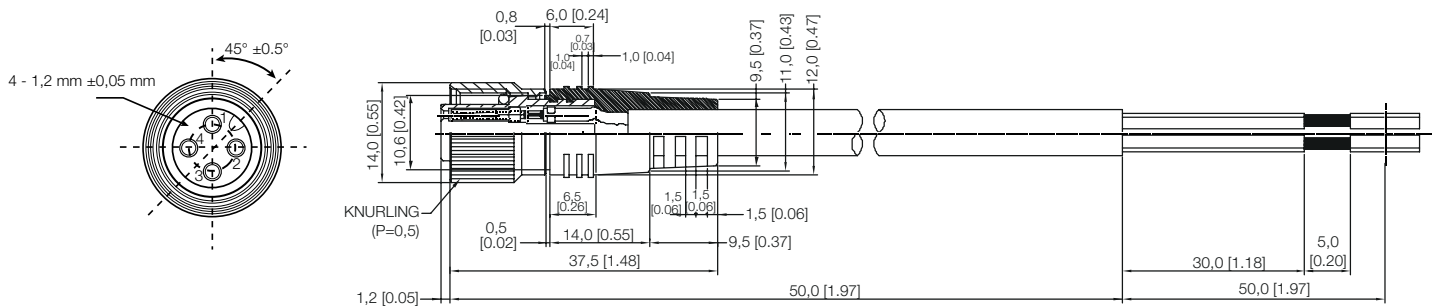
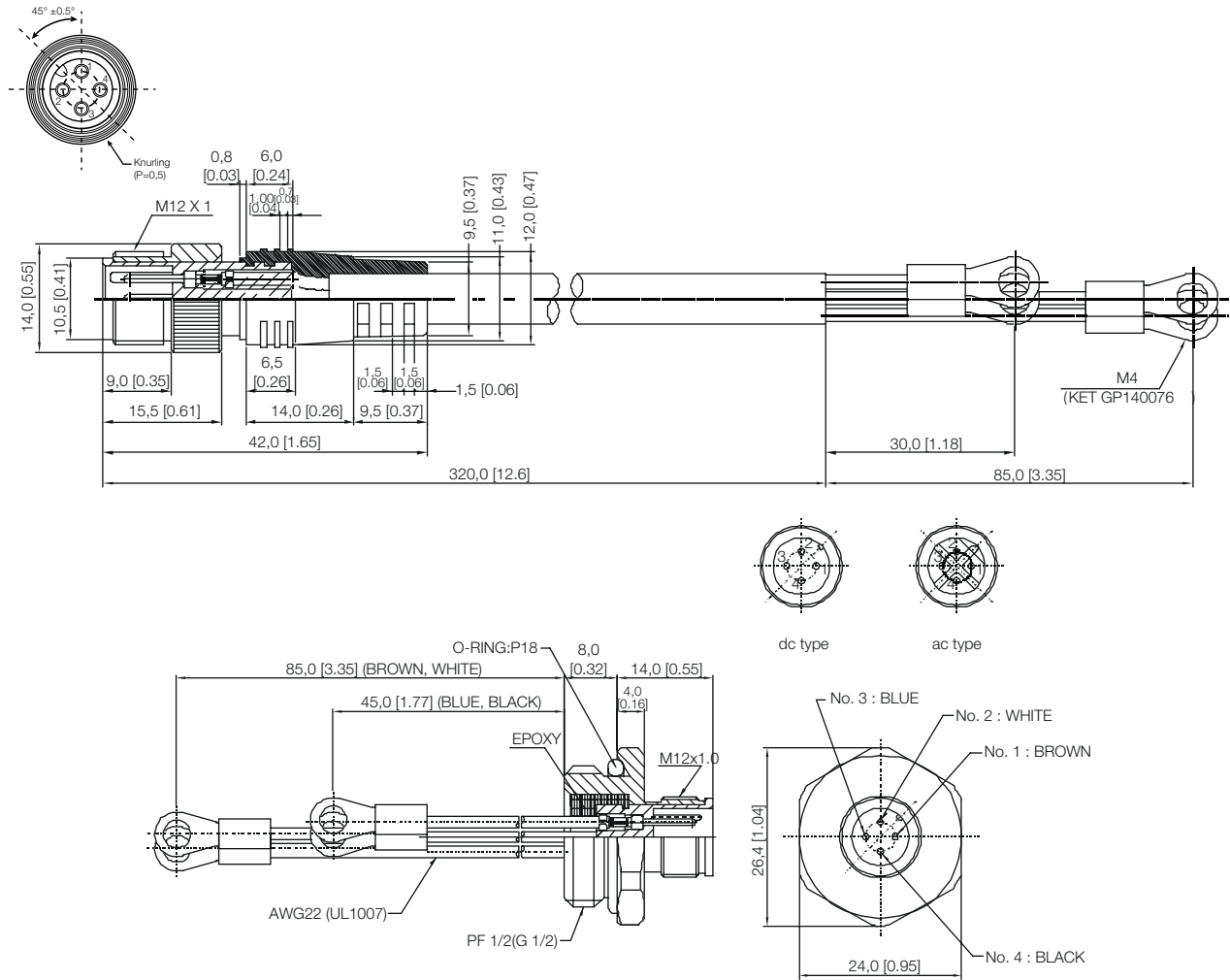


Figure 23. ZLC-4DSF-__



MICRO SWITCH™ General Purpose Limit Switches

Figure 24. ZLC-4DSM-__



NOTE: Receptacle required for using cables. Order part number ZLC-4DRM-85.

SZL-WL Series

SEAL CONNECTOR

Product Nomenclature

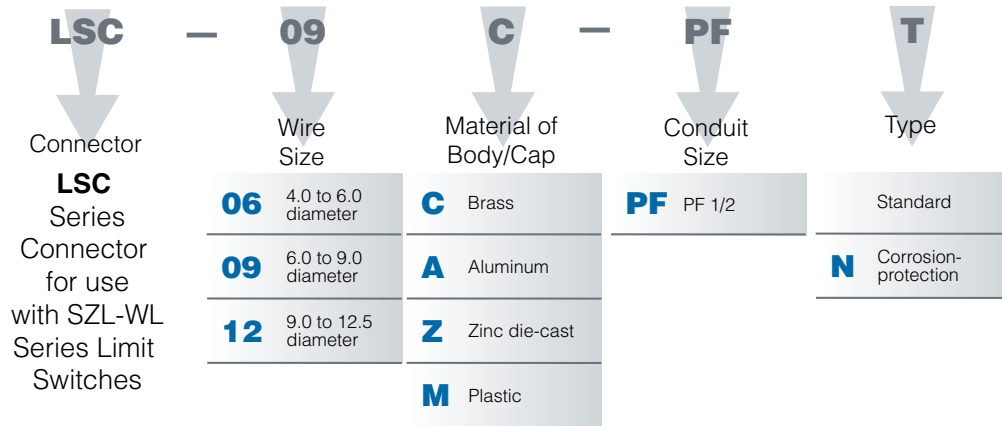


Figure 25. LSC-09C-PFT

