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Sensing and Control  
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### Sensing and Control

Honeywell Inc.

11 West Spring Street

Freeport, IL 61032

## Compact Limit Switches

### FEATURES

- Mode of operation is field adjustable.
- NEMA 1, 3, 4, 6 and 13.
- Wide choice of heads and actuators.
- Variety of operating characteristics.
- Optional indicator light.
- Captive screws.
- UL Recognized, file #E12252
- CSA Certified, file #LR57325

### FIELD ADJUSTABLE

Rotary motion roller lever and rod actuators are adjustable through 360°. They may be set for operation clockwise, counter-clockwise, or in both directions.

Operating heads may be positioned in any of four 90° positions.

### UL/CSA LS SWITCHES

Several UL recognized and CSA certified LS compact limit switches are in the order guides.

Other listings can be furnished in the UL version. Contact the 800 number for information.

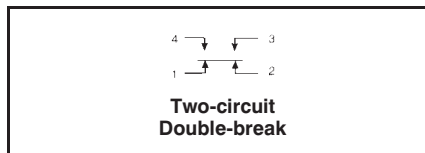
For rapid response – off the shelf service, all **bold face** listings are normally stocked items.

Compact LS and plug-in 200LS limit switches have a long record of successful performance in industrial applications.

The LS fits in many places too small for any other fully adjustable limit switch.

The 200LS switches are the original plug-in concept for reducing downtime by making changeover simple and fast.

### CIRCUITRY



### ELECTRICAL RATINGS

|   |  |   |
|---|--|---|
| A | 10 amps, 120, 240 or 480 VAC;<br>1/3 hp, 120 VAC; 3/4 hp, 240 VAC;<br>0.8 amp, 115 VDC**; 0.4 amp, 230 VDC**;<br>0.1 amp, 550 VDC**;<br>Pilot Duty, 600 VAC max. | <b>APPLICATION NOTE:</b><br>Silver Cadmium Oxide Contacts –<br>Designed for use with inductive loads<br>such as relays, contactors, motors and<br>solenoids. Honeywell<br>does <i>not</i> recommend the use of silver<br>cadmium oxide switch contacts in non-<br>arcing loads. Non-arcing loads are gen-<br>erally loads less than 12 volts and/or 0.5<br>amp. |
| B | 10 amps, 120, 240 or 480 VAC;<br>1/4 hp, 120 VAC; 1/2 hp, 240 VAC.<br>Pilot Duty, 600 VAC max.   |   |
| C | 10 amps, 120 VAC;<br>1/3 hp, 120 VAC.  |   |
| D | 10 amps, 120, 240, 480 VAC;<br>1/4 hp, 120 VAC; 1/2 hp, 240 VAC;<br>0.8 amp, 115 VDC**; 0.4 amp, 230 VDC**;<br>0.1 amp, 550 VDC**;<br>Pilot Duty, 600 VAC max.   |   |
| E | 10 amps, 120, 240 or 480 VAC;<br>1/3 hp, 120 VAC; 3/4 hp, 240 VAC.<br>Pilot Duty, 600 VAC max.   | Fine Silver Contacts  |
| F | UL Rating:<br>10 amps, 125, 250, or 480 VAC; 1/3 hp,<br>125 VAC; 3/4 hp, 250 VAC;<br>0.8 amp, 125 VDC**; 0.4 amp, 250 VDC**                                      |   |
| G | UL Rating:<br>10 amps, 125, 250 or 480 VAC;<br>1/4 hp, 125 VAC; 1/2 hp, 250 VAC;<br>0.8 amp, 125 VDC**; 0.4 amp, 250 VDC**                                       |   |

\*\* Resistive Rating

NOTE: The terminals of two-circuit double-break switches must be wired to equal voltage sources and the same polarity. The loads should be on the same side of the line.

## ROLLER LEVER ROTARY ACTUATED SWITCHES

(To order switches and levers separately, refer to pages A73 and A74 or A37 and A38.)

### ORDER GUIDE

Momentary action. Steel rollers.



Compact



Plug-in\*

| Description                                   | Rating | Catalog Listing |                  | O.F.<br>max.    | P.T.<br>max. | O.T.<br>min. | D.T.<br>max. |
|---|--------|-----------------|------------------|-----------------|--------------|--------------|--------------|
|   |        | Compact         | Plug-in          |                 |              |              |              |
| Standard                                      | A      | <b>1LS1</b>     | <b>201LS1*</b>   | 13,3 N<br>3 lb. | 20°          | 30°          | 12°          |
| 20° Pretravel UL/CSA                          | F      | <b>1LS1-L</b>   | —                | 13,3 N<br>3 lb. | 20°          | 30°          | 12°          |
| Low Pretravel 5°                              | B      | <b>1LS19</b>    | <b>201LS19*</b>  | 13,3 N<br>3 lb. | 5°           | 30°          | 4°           |
| Low Operating Force<br>5° Pretravel           | B      | <b>1LS131</b>   | —                | 5,0 N<br>18 oz. | 5°           | 30°          | 4°           |
| Standard with indicator<br>light 120 VAC only | C      | <b>1LS501</b>   | <b>201LS501*</b> | 13,3 N<br>3 lb. | 20°          | 30°          | 12°          |
| Low Operating Force                           | A      | <b>1LS6</b>     | 201LS6*          | 5,0 N<br>18 oz. | 20°          | 30°          | 12°          |
| Cavity Mount version<br>of 1LS1               | A      | <b>7LS1</b>     | —                | 13,3 N<br>3 lb. | 20°          | 30°          | 12°          |

\*Require Terminal Block (**18PA1** for 200LS switches) which must be ordered separately. Unless damaged, it is not necessary to replace terminal block when replacing switch.

Characteristics: O.F. — Operating Force; P.T. — Pretravel; O.T. — Overtravel; D.T. — Differential Travel.

## Compact Limit Switches

MAINTAINED CONTACT YOKE ROLLER LEVER ROTARY ACTUATED SWITCHES

### ORDER GUIDE

Maintained contact

Compact



| Description                            | Electrical Rating<br>Page A70 | Catalog Listing |         | O.F.<br>max.   | P.T.<br>max. | O.T.<br>min. | D.T.<br>max. |
|--|-------------------------------|-----------------|---------|----------------|--------------|--------------|--------------|
|  |                               | Compact         | Plug-in |                |              |              |              |
| Steel rollers on opposite sides of arm | A                             | 6LS1            | 206LS1* | 8,9 N<br>2 lb. | 55°          | 35°          | 20°          |
| Nylon rollers on same side of arm      | A                             | 6LS3            | —       | 8,9 N<br>2 lb. | 55°          | 35°          | 20°          |

## ADJUSTABLE LENGTH ROLLER LEVER ROTARY ACTUATED SWITCHES

### ORDER GUIDE

Length adjustable 1.2 to 3.5 in. (30.6 to 88.9 mm)  
Momentary action. Nylon rollers.

Compact



| Description                                    | Electrical Rating<br>Page A70 | Catalog Listing |         | O.F.†<br>max.   | P.T.<br>max. | O.T.<br>min. | D.T.<br>max. |
|--|-------------------------------|-----------------|---------|-----------------|--------------|--------------|--------------|
|  |                               | Compact         | Plug-in |                 |              |              |              |
| Standard Pretravel<br>20°                      | A                             | 1LS3            | 201LS3* | 13,3 N<br>3 lb. | 20°          | 30°          | 12°          |
|  | UL/CSA                        | F               | 1LS3-L  |                 |              |              |              |
| Low pretravel 5°                               | B                             | 1LS58           | —       | 13,3 N<br>3 lb. | 5°           | 30°          | 4°           |
| Low pretravel 5°<br>and low operating<br>force | B                             | 1LS59           | —       | 5,0 N<br>18 oz. | 5°           | 30°          | 4°           |

†at 1.5" length

## LOW FORCE ROD ROTARY ACTUATED SWITCHES

### ORDER GUIDE

Momentary action, 5-inch (127mm) aluminum rod.

Compact



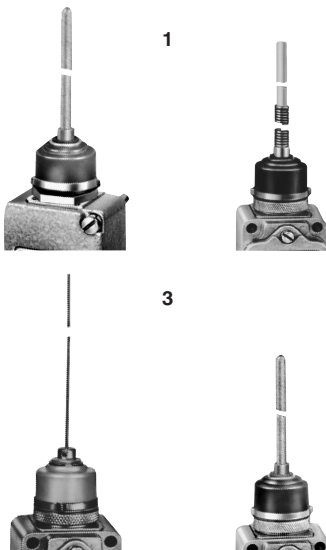
| Description                                    | Electrical Rating<br>Page A70 | Catalog Listing |          | O.F.**<br>max.  | P.T.<br>max. | O.T.<br>min. | D.T.<br>max. |
|--|-------------------------------|-----------------|----------|-----------------|--------------|--------------|--------------|
|  |                               | Compact         | Plug-in  |                 |              |              |              |
| Standard Pretravel<br>20°                      | A                             | 1LS10           | 201LS10* | 1,39 N<br>5 oz. | 20°          | 30°          | 12°          |
|  | UL/CSA                        | F               | 1LS10-L  |                 |              |              |              |
| Low pretravel 5°                               | B                             | 1LS47           | 201LS47* | 1,39 N<br>5 oz. | 5°           | 30°          | 4°           |
| Low pretravel 5°<br>and low operating<br>force | B                             | 1LS53           | 201LS51* | 0,83 N<br>3 oz. | 5°           | 30°          | 4°           |

\*\*Rod fully extended

## WOBBLE LEVER ACTUATED SWITCHES

### ORDER GUIDE

Momentary action.



| Description                                 | Electrical Rating<br>Page A70 | Catalog Listing |           | O.F.<br>max.    | P.T.<br>max.    |
|---|-------------------------------|-----------------|-----------|-----------------|-----------------|
|   |                               | Compact         | Plug-in   |                 |                 |
| Flexible cable actuator <sup>1</sup>        | D                             | 8LS1            | 208LS1*   | 1,39 N<br>5 oz. | 28,6<br>1.125   |
|   | UL/CSA                        | G               | 8LS1-L    | —               | 1,39 N<br>5 oz. |
| Combination spring-rod <sup>2</sup>         | D                             | 8LS3            | 208LS3*   | 1,39 N<br>5 oz. | 28,6<br>1.125   |
| Low force steel wire <sup>3</sup>           | D                             | 8LS125          | 208LS125* | 0,28 N<br>1 oz. | 63,5<br>2.5     |
| Coil spring <sup>4</sup><br>Stainless steel | D                             | 8LS152          | 208LS152* | 1,39 N<br>5 oz. | 28,6<br>1.125   |

\*Require Terminal Block (18PA1 for 200LS Switches) which must be ordered separately. Unless damaged, it is not necessary to replace terminal block when replacing switch.

Limit/Enclosed

## Compact Limit Switches TOP PLUNGER ACTUATED SWITCHES

Compact



### ORDER GUIDE

Momentary action.

| Description                        | Electrical Rating<br>Page A70 | Catalog Listing |           | O.F.<br>max.<br>N<br>lb. | P.T.<br>max.<br>mm<br>in. | O.T.<br>min.<br>mm<br>in. | D.T.<br>max.<br>mm<br>in. |
|------------------------------------|-------------------------------|-----------------|-----------|--------------------------|---------------------------|---------------------------|---------------------------|
|                                    |                               | Compact         | Plug-in   |                          |                           |                           |                           |
| Standard top plunger               | A                             | 2LS1            | 202LS1*   | 31,1<br>7                | 1,65<br>.065              | 6,35<br>.250              | 0,51<br>.020              |
| UL/CSA                             | F                             | 2LS1-L          | —         | 31,1<br>7                | 1,65<br>.065              | 6,35<br>.250              | 0,51<br>.020              |
| Low operating force<br>top plunger | E                             | 2LS111          | 202LS111* | 10<br>36 oz.             | 1,65<br>.065              | 5,56<br>.219              | 0,23<br>.009              |

## TOP ROLLER PLUNGER ACTUATED SWITCHES

Plug-in\*



### ORDER GUIDE

Momentary action.

| Description                    | Electrical Rating<br>Page A70 | Catalog Listing |         | O.F.<br>max.<br>N<br>lb. | P.T.<br>max.<br>mm<br>in. | O.T.<br>min.<br>mm<br>in. | D.T.<br>max.<br>mm<br>in. |
|--------------------------------|-------------------------------|-----------------|---------|--------------------------|---------------------------|---------------------------|---------------------------|
|                                |                               | Compact         | Plug-in |                          |                           |                           |                           |
| Standard top roller<br>Plunger | A                             | 5LS1            | 205LS1* | 31,1<br>7                | 1,65<br>.065              | 5,56<br>.219              | 0,51<br>.020              |
| Steel roller                   | F                             | 5LS1-L          | —       | 31,1<br>7                | 1,65<br>.065              | 5,56<br>.219              | 0,51<br>.020              |

## SIDE PLUNGER ACTUATED SWITCHES

Compact



### ORDER GUIDE

Momentary action. Assembled with plunger facing front (label side).

| Description          | Electrical Rating<br>Page A70 | Catalog Listing |         | O.F.<br>max.<br>N<br>lb. | P.T.<br>max.<br>mm<br>in. | O.T.<br>min.<br>mm<br>in. | D.T.<br>max.<br>mm<br>in. |
|----------------------|-------------------------------|-----------------|---------|--------------------------|---------------------------|---------------------------|---------------------------|
|                      |                               | Compact         | Plug-in |                          |                           |                           |                           |
| Standard side roller | A                             | 4LS1            | 204LS1* | 40<br>9                  | 2,77<br>.109              | 6,35<br>.250              | 1,02<br>.040              |

## SIDE ROLLER PLUNGER ACTUATED SWITCHES

Plug-in\*



### ORDER GUIDE

Momentary action. Assembled with plunger facing front (label side).

| Description                                     | Electrical Rating<br>Page A70 | Catalog Listing |         | O.F.<br>max.<br>N<br>lb. | P.T.<br>max.<br>mm<br>in. | O.T.<br>min.<br>mm<br>in. | D.T.<br>max.<br>mm<br>in. |
|---|-------------------------------|-----------------|---------|--------------------------|---------------------------|---------------------------|---------------------------|
|   |                               | Compact         | Plug-in |                          |                           |                           |                           |
| Standard side roller<br>plunger<br>Steel Roller | A                             | 3LS1            | 203LS1* | 40<br>9                  | 2,77<br>.109              | 5,56<br>.219              | 1,02<br>.040              |

\* Require Terminal Block (18PA1 for 200LS Switches) which must be ordered separately. Unless damaged, it is not necessary to replace terminal block when replacing switch.

Characteristics: O.F. — Operating Force; P.T. — Pretravel; O.T. — Overtravel; D.T. — Differential Travel.

N = Newton

Roller may be turned in any position through 360°.

## Compact Limit Switches

### ROTARY ACTUATED SWITCHES — WITHOUT LEVERS

The following compact LS and plug-in 200LS limit switches are sold without actuating levers. Levers are ordered separately from the order guide below and on the facing page.

Plug-in\*



Compact



### ORDER GUIDE

Momentary action, except where noted.

| Description                                   | Electrical Rating Page A70 | Catalog Listing |          | O.Tq. max.             | P.T. max. | O.T. min. | D.T. max. |
|---|----------------------------|-----------------|----------|------------------------|-----------|-----------|-----------|
|   |                            | Compact         | Plug-in  |                        |           |           |           |
| Standard 20° pretravel                        | A                          | 1LS2            | 201LS2*  | 0,51 Nm<br>4.5 in. lb. | 20°       | 30°       | 12°       |
|   | F                          | 1LS2-L          | —        |                        |           |           |           |
| Low pretravel 5°                              | B                          | 1LS9            | 201LS9*  | 0,51 Nm<br>4.5 in. lb. | 5°        | 30°       | 4°        |
| Standard pretravel 20°<br>Low operating force | A                          | 1LS23           | 201LS23* | 0,21 Nm<br>30 in. oz.  | 20°       | 30°       | 12°       |
|   | B                          | 1LS56           | 201LS56* |                        |           |           |           |
| Low pretravel 5°<br>Low operating force       | A                          | 6LS2            | 206LS2*  | 0,34 Nm<br>3 in. lb.   | 55°       | 35°       | 20°       |
|   | F                          | 6LS2-L          | —        |                        |           |           |           |

Limit/Enclosed

\* Require Terminal Block (18PA1 for 200LS Switches).  
Note 1 — Yoke lever actuators normally used.

Characteristics:  
O.Tq. — Operating Torque; P.T. — Pretravel; O.T. — Overtravel; D.T. — Differential Travel

### AUXILIARY ROTARY LEVERS

#### ORDER GUIDE

|  | Type   | Catalog Listing     |
|--|--|---------------------|
|  | Roller arm, with nylon, steel, or ball bearing roller. | Nylon 6PA71         |
|  |  | Steel 6PA121        |
|  |  | Ball bearing 6PA144 |
|  | Yoke roller lever with nylon or steel rollers.         | Steel 6PA80         |
|  | Rollers on same side.                                  | Steel 6PA82         |
|  |  | Nylon 6PA102        |

60mm radius levers Part # PA-J11

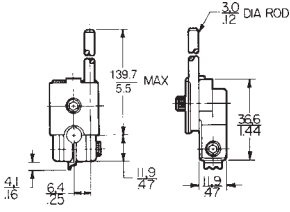
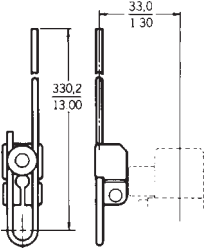
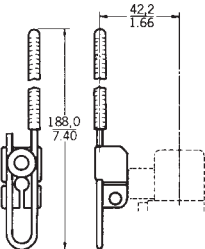
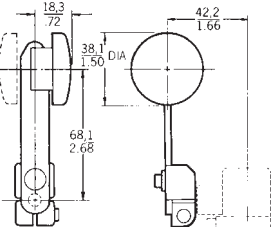
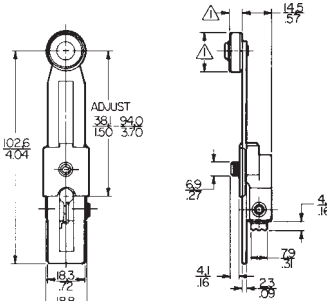
# Limit and Enclosed Switches

LS/200LS Series

## Compact Limit Switches

AUXILIARY ROTARY LEVERS

### ORDER GUIDE

|  | Type  | Catalog Listing |               |
|--|---|-----------------|---------------|
|    | Adjustable aluminum rod.  | <b>LSZ54M</b>   |               |
|   | Adjustable stainless steel rod.                                       | <b>6PA63</b>    |               |
|  | Adjustable spring rod.  | <b>6PA69</b>    |               |
|  | Hand operated aluminum button on stainless steel lever.               | <b>6PA57</b>    |               |
|  | Adjustable roller arm with steel or nylon rollers.<br>.75 dia. roller | Steel           | <b>LSZ52D</b> |
|  | .75 dia. roller   | Nylon           | <b>LSZ52C</b> |
|  | 1.00 dia. roller  | Nylon           | <b>LSZ52J</b> |
|  | 1.50 dia. roller  | Nylon           | <b>LSZ52K</b> |
|  | 2.00 dia. lever   | Nylon           | <b>LSZ52M</b> |

## Replacement Parts

### REPLACEMENT PARTS

Except where noted, all operating heads are furnished with actuators.

| Catalog Listing    | Contact Block |         | Operating Head | Actuator Only |
|--------------------|---------------|---------|----------------|---------------|
|                    | Compact       | Plug-In |                |               |
| 1LS1-L             | 2MN1-L        | 2MN6    | 9PA15          | 6PA121        |
| 1LS1<br>201LS1     | 2MN1          |         |                |               |
| 1LS2-L             | 2MN1-L        | 2MN6    | 9PA16†         | Note 1        |
| 1LS2<br>201LS2     | 2MN1          |         |                |               |
| 1LS3-L             | 2MN1-L        | 2MN6    | 9PA16†         | LSZ52C        |
| 1LS3<br>201LS3     | 2MN1          |         |                |               |
| 1LS6<br>201LS6     | 2MN1          | 2MN6    | 9PA50          | 6PA121        |
| 1LS9<br>201LS9     | 2MN8          | 2MN13   | 9PA16†         | Note 1        |
| 1LS10-L            | 2MN1-L        | 2MN6    | 9PA40          | 6PA43         |
| 1LS10<br>201LS10   | 2MN1          |         |                |               |
| 1LS19<br>201LS19   | 2MN8          | 2MN13   | 9PA15          | 6PA121        |
| 1LS23<br>201LS23   | 2MN1          | 2MN6    | 9PA68†         | Note 2        |
| 1LS47<br>201LS47   | 2MN8          | 2MN13   | 9PA40          | 6PA43         |
| 1LS53<br>201LS51   | 2MN8          | 2MN13   | 9PA48          | 6PA43         |
| 1LS56<br>201LS56   | 2MN8          | 2MN13   | 9PA74†         | Note 2        |
| 1LS58              | 2MN8          | —       | 9PA16†         | LSZ52C        |
| 1LS131             | 2MN8          | —       | 9PA50          | 6PA121        |
| 1LS501<br>201LS501 | 2MN1          | 2MN14   | 9PA15          | 6PA121        |

†Furnished without actuator.

Note 1—Any auxiliary actuator shown can be used with these listings.

Note 2—6PA43, 6PA63, 6PA71 or 6PA121 auxiliary actuators only are recommended for these listings.

Note 3—Yoke lever actuators normally used.

### CONDUIT SEALING PACKETS

| Packet | Cable O.D. Inches |
|--------|-------------------|
| 2PA6   | .400"-.435"       |
| 2PA16  | .435"-.470"       |
| 2PA1   | .530"-.570"       |

(See page A49 for description)

| Catalog Listing    | Contact Block |         | Operating Head | Actuator Only |
|--------------------|---------------|---------|----------------|---------------|
|                    | Compact       | Plug-In |                |               |
| 2LS1-L             | 2MN1-L        | 2MN6    | 9PA32          | None          |
| 2LS1<br>202LS1     | 2MN1          |         |                |               |
| 2LS111<br>202LS111 | 2MN3          | 2MN7    | 9PA71          | None          |
| 3LS1<br>203LS1     | 2MN11         | 2MN9    | 9PA45          | None          |
| 4LS1<br>204LS1     | 2MN11         | 2MN9    | 9PA44          | None          |
| 5LS1-L             | 2MN1-L        | 2MN6    | 9PA33          | None          |
| 5LS1<br>205LS1     | 2MN1          |         |                |               |
| 6LS1<br>206LS1     | 2MN1          | 2MN6    | 9PA46          | 6PA80         |
| 6LS2-L             | 2MN1-L        | 2MN6    | 9PA47†         | Note 3        |
| 6LS2<br>206LS2     | 2MN1          |         |                |               |
| 6LS3               | 2MN1          | —       | 9PA47†         | 6PA102        |
| 7LS1               | 2MN1          | —       | 9PA15          | 6PA121        |
| 8LS1-L             | 2MN11-L       | 2MN9    | 9PA58          | None          |
| 8LS1<br>208LS1     | 2MN11         |         |                |               |
| 8LS3<br>208LS3     | 2MN1          | 2MN6    | 9PA49          | None          |
| 8LS125<br>208LS125 | 2MN11         | 2MN9    | 9PA54          | None          |
| 8LS152<br>208LS152 | 2MN1          | 2MN6    | 9PA42          | None          |

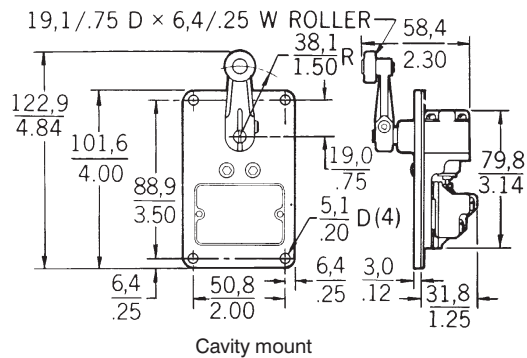
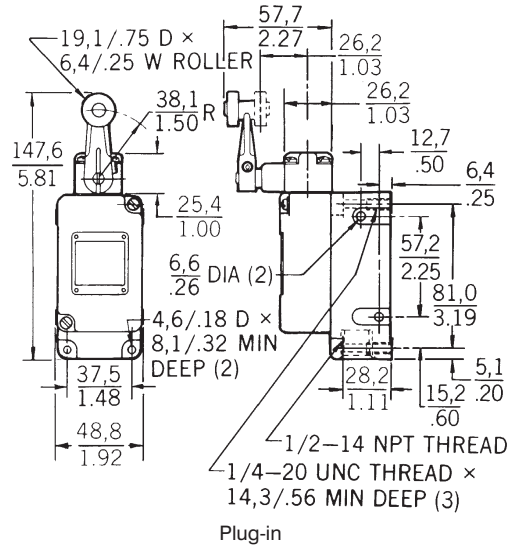
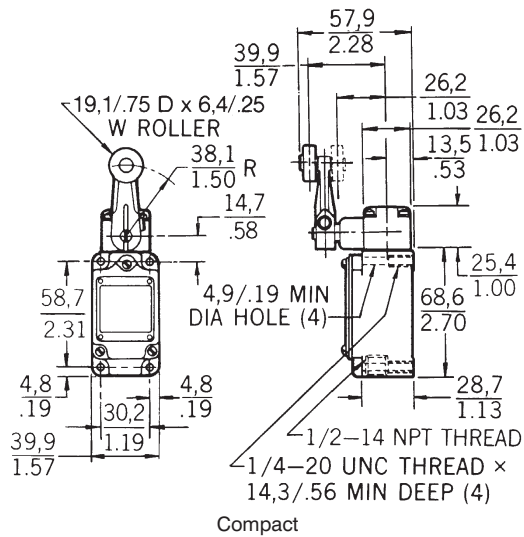
Limit/Enclosed

# Limit and Enclosed Switches

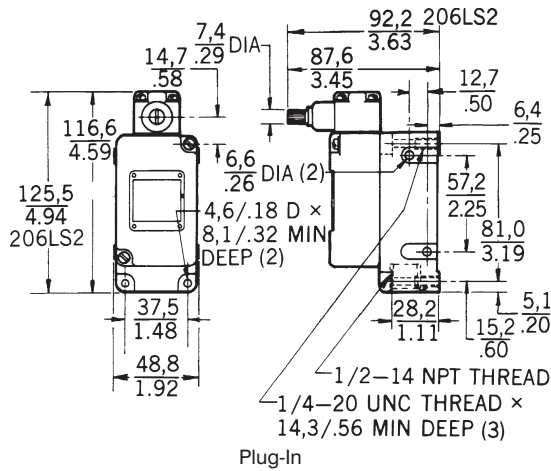
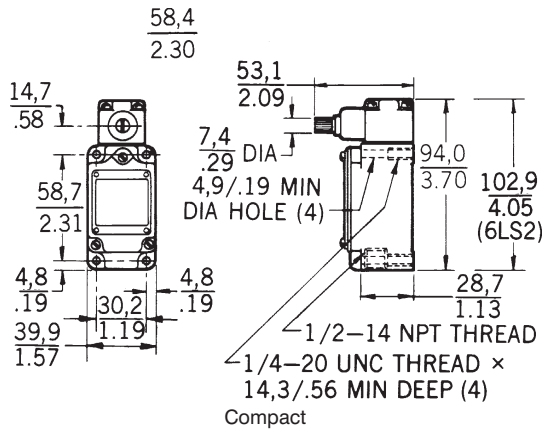
LS/200LS Series

## Mounting Dimensions (For reference only)

### ROLLER LEVER



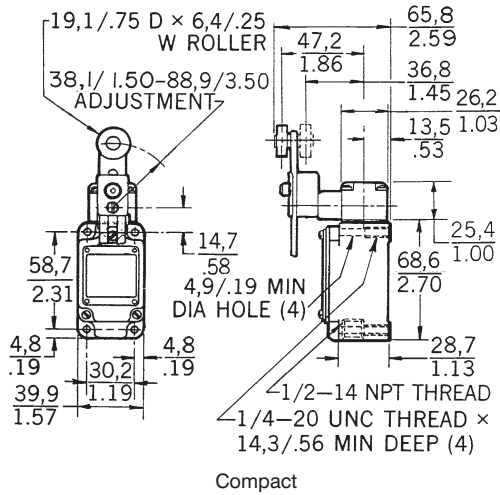
### SWITCH WITHOUT LEVER



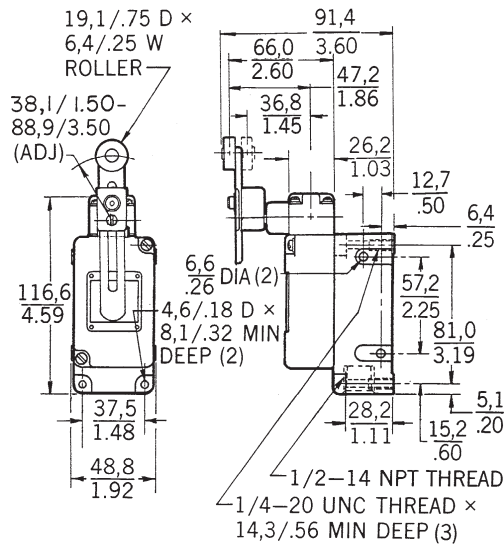


## Mounting Dimensions (For reference only)

### ADJUSTABLE LENGTH ROLLER LEVER

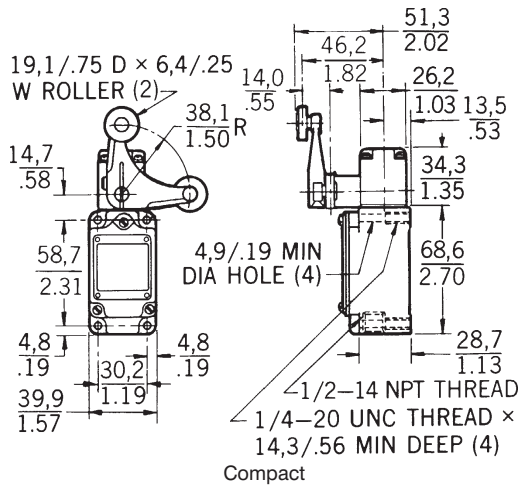


Compact

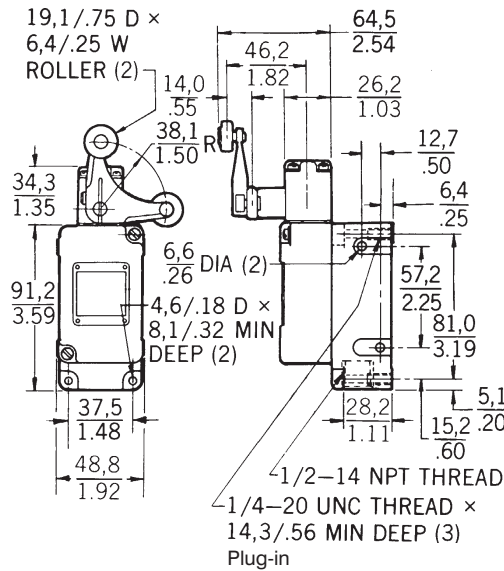


Plug-in

### YOKE ROLLER LEVER

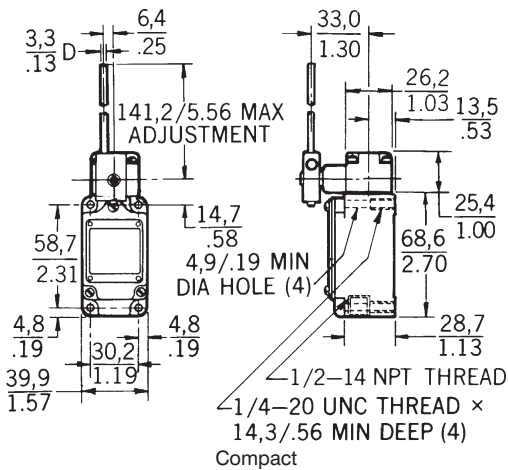


Compact

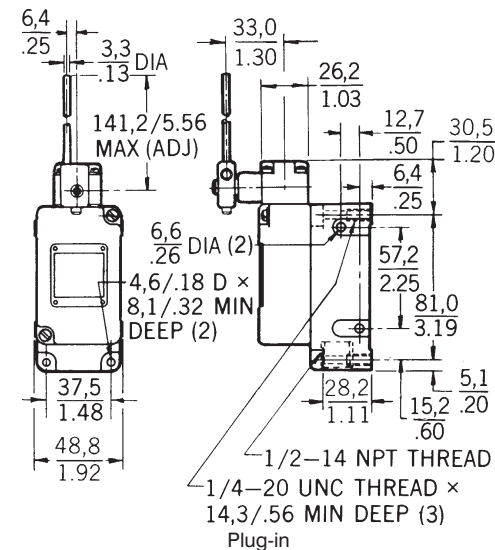


Plug-in

### ADJUSTABLE LENGTH ROD



Compact

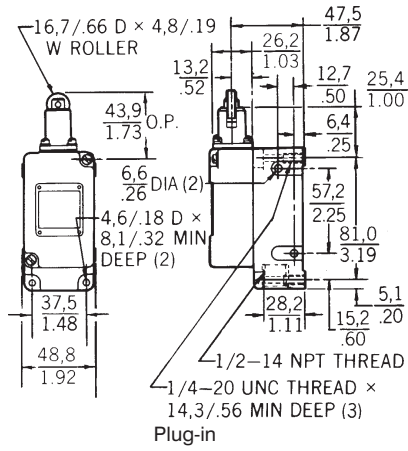
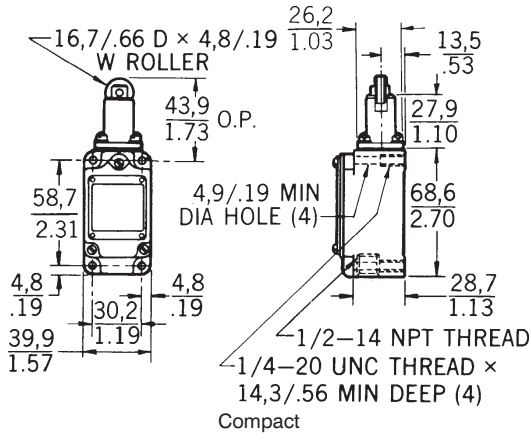


Plug-in

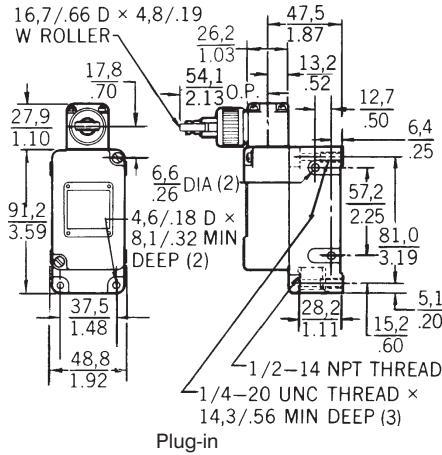
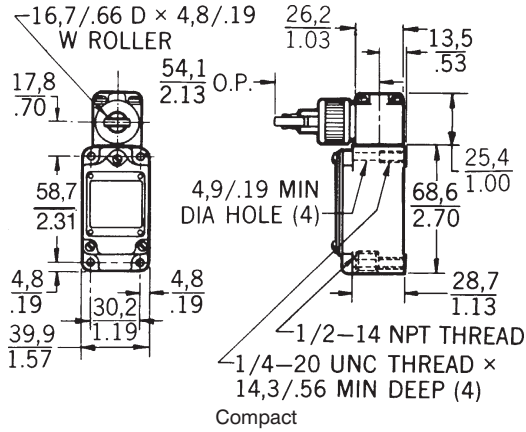
Limit/Enclosed

## Mounting Dimensions (For reference only)

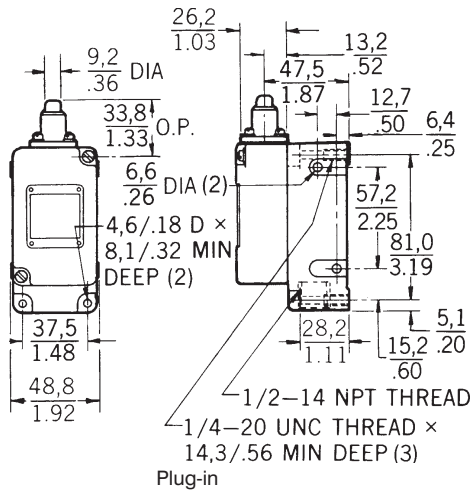
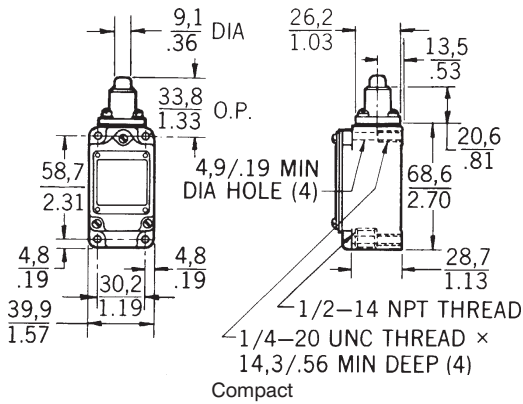
### TOP ROLLER PLUNGER



### SIDE ROLLER PLUNGER



### TOP PLUNGER



Key:  $0,0 = \text{mm}$   
 $0.00 = \text{inches}$

