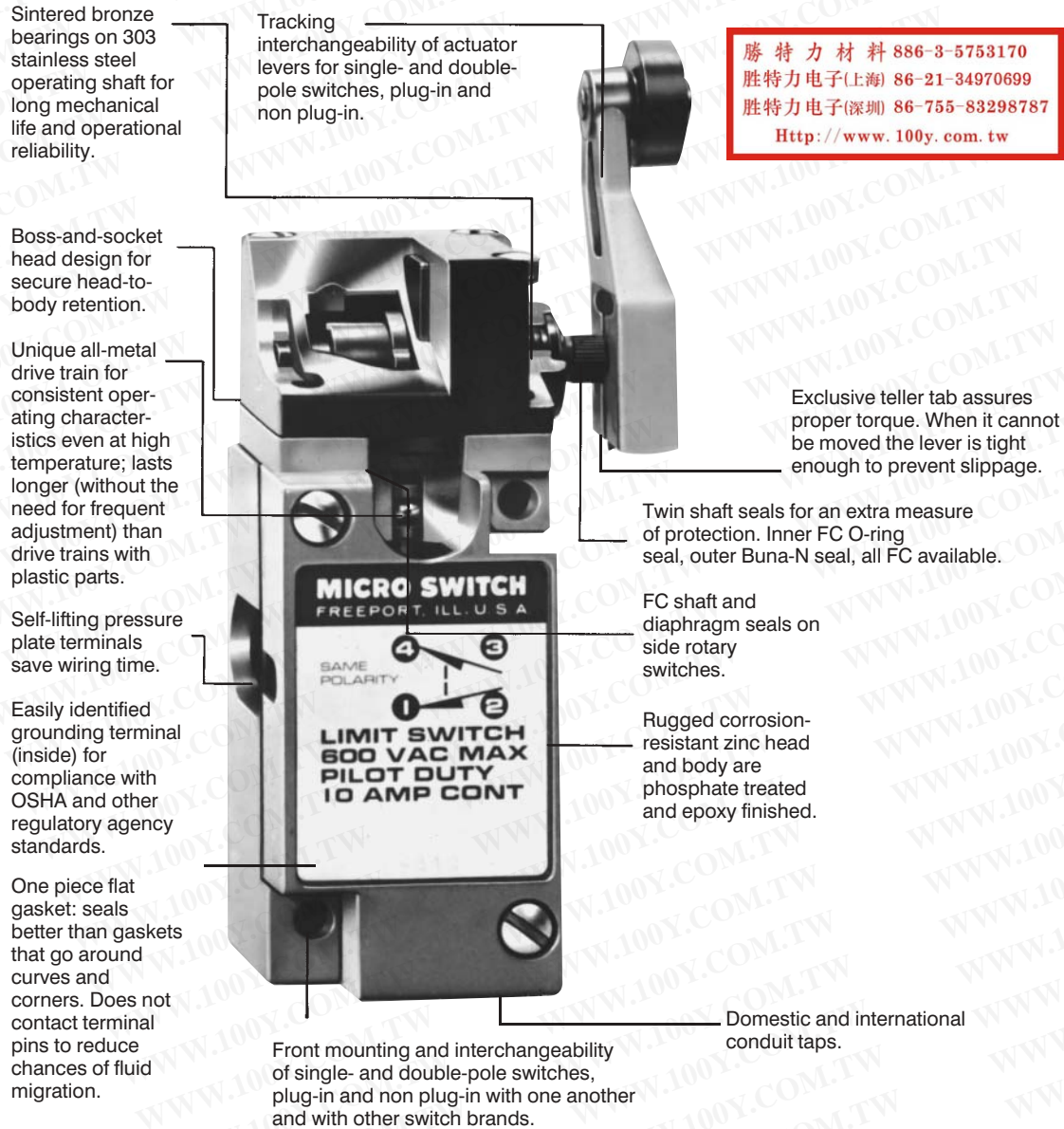


Heavy Duty Limit Switches

ADDITIONAL FEATURES AND OPTIONS

- Wide variety of operating heads
- Field adjustable operating modes, for reduced inventory
- Convenience of on-the-spot adjustment instructions
- Complete choice of circuitry and electrical rating options, including solid state switching
- Plug-in and non plug-in versions have identical operating characteristics and are dimensionally interchangeable
- Manifold (rear-wire) version
- NEMA 1, 3, 4, 4X, 6, 6P, and 13*
- UL Listed, file #E37138
- CSA Certified, file #LR57326
- Explosion-proof version page A113
- Low temperature versions to -40°F (-40°C) page A42
- Captive head and body screws
- Designed to withstand seismic shock
- Stainless steel (NEMA 4X) version page A47
- Preleaded cable or prewired connector types page A42
- Epoxy filled wash down (NEMA 6P) types page A44
- Completely fluorocarbon (FC) sealed versions page A42

* Depending on operating head, prewired connector or cable, enclosure ratings may vary. For enclosure rating information on specific catalog listings, contact the 800 number.



Heavy Duty Limit Switches

ROTARY OPERATING HEADS

The head type is designated by the first three letters in the catalog listing, i.e., **LSA1A-1A** has an **LSA** standard side rotary head. See order guides for details. All are momentary action, except the maintained contact LSN head.



Side rotary

Top rotary

SIDE ROTARY

LSA — Standard

Overtravel 60° minimum, pretravel 15° maximum, differential travel 5° (single-pole) and 7° (double-pole) maximum.

LSP — Low Differential Travel

Overtravel 68° minimum, pretravel 9° maximum, differential travel 3° (single-pole) and 4° (double-pole) maximum.

LSR — Low Operating Torque

Overtravel 60° minimum, pretravel 15° maximum, operating torque 1.7 in. lbs. (0,19 Nm) maximum.

LSH — Low Torque, Low Differential Travel

Overtravel 68° minimum, operating torque 1.7 in. lbs. (0,19 Nm) maximum, differential travel 3° (single-pole) and 4° (double-pole) maximum.

LSS — Gravity Return

Operating torque 5 in.-oz.

LST — Extra Low Torque

Operating torque 12 in.-oz.

LSL — Sequence Action

Delayed action between operation of two poles, in each direction. Overtravel 48° minimum.

LSM — Center Neutral

One set of contacts operates on clockwise rotation, another set on counterclockwise rotation. Overtravel 53° minimum.

LSN — Maintained Contact

Operation is maintained on counterclockwise rotation, reset on clockwise rotation, and vice versa. Overtravel 20° minimum.

TOP ROTARY

LSB — High Overtravel

Top rotary actuation is ideal when increased overtravel is required (100° minimum.) Uses same levers as side rotary switches.

ROTARY LEVERS

Shown below are typical lever series for side and top rotary switches. Additional versions are described in the lever order guides.

LSZ51 — Standard Roller Lever (1.5")

LSZ55 — Offset Roller Lever

LSZ53 — Yoke Roller Lever

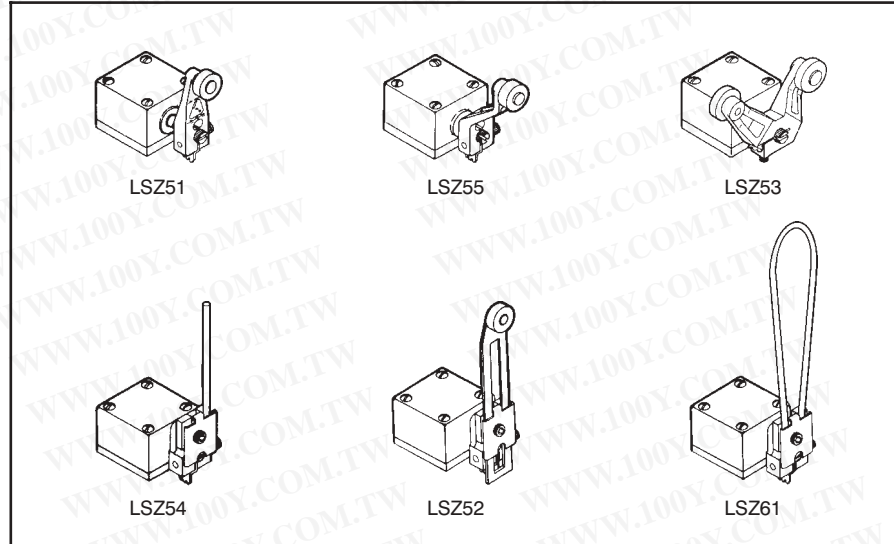
For use with LSN maintained contact switches.

LSZ52 — Adjustable Length Roller Lever

LSZ54 — Rod Lever

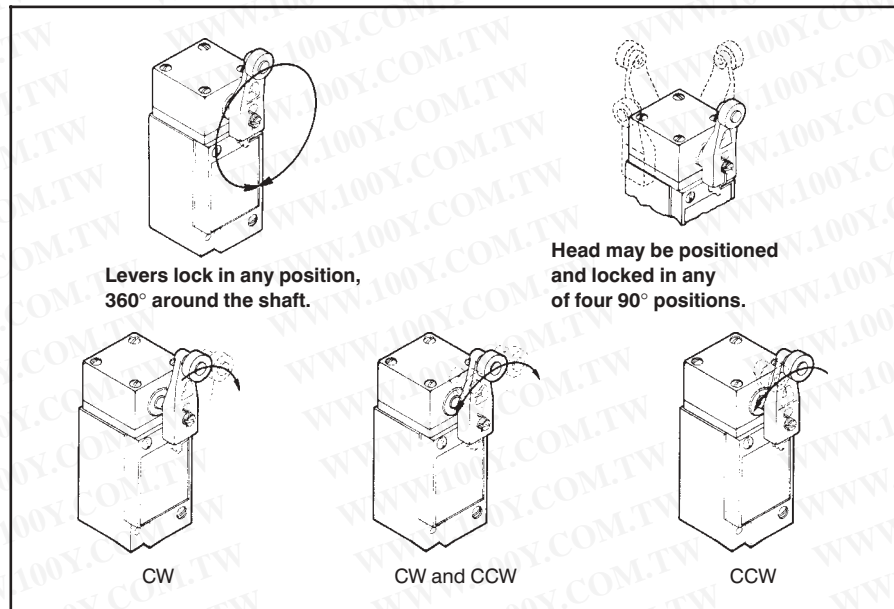
May be cut or formed by user. Available in flexible versions.

LSZ61 — Adjustable Loop Lever



Field adjustable to match application needs

Actuation is adjustable for operation clockwise, counterclockwise, or in both directions. Adjusting instructions are cast into the internal lid of side rotatory heads for convenient reference.



Levers lock in any position, 360° around the shaft.

Head may be positioned and locked in any of four 90° positions.

CW

CW and CCW

CCW

Limit/Enclosed

Heavy Duty Limit Switches

PLUNGER OPERATING HEADS

All plungers are momentary action, except the LSG maintained contact version. Over-travel is .190 inch (4.83 mm) minimum. The plungers are sealed with an oiltight boot. A gasket seal is between the head and housing. Plungers are corrosion resistant steel.

TOP PLUNGERS

LSC — Top Plain Plunger

For in-line operating motion.

LSD — Top Roller Plunger

Can be set at 90° increments to accept cam or slide actuation.

LSV — Adjustable Top Plain Plunger

Simplifies installation, since switch operating point can be adjusted from 2.085 to 2.335 inch.



SIDE PLUNGERS

Side plungers fit in close quarters. The heads may be positioned to accept actuation from any of four directions, 90° apart.

LSE — Side Plain Plunger

For in-line actuating motion

LSF — Side Roller Plunger

Roller may be set in vertical or horizontal position for cam or slide actuation.

LSW — Adjustable Side Plain Plunger

Adjustable operating point, 1.615 to 1.865 inch.

LSG — Maintained Contact Side Plain Plunger

Transfer of switch contacts is maintained after either of the two plungers is operated. Operation of other plunger resets switch for next cycle.



WOBBLE LEVER OPERATING HEAD

Switches with wobble lever heads are operated by any movement, except direct pull.

LSJ1A-7M — Spring Wire Lever

May be formed by user to meet special needs.

LSJ1A-7A — Plastic Rod Lever

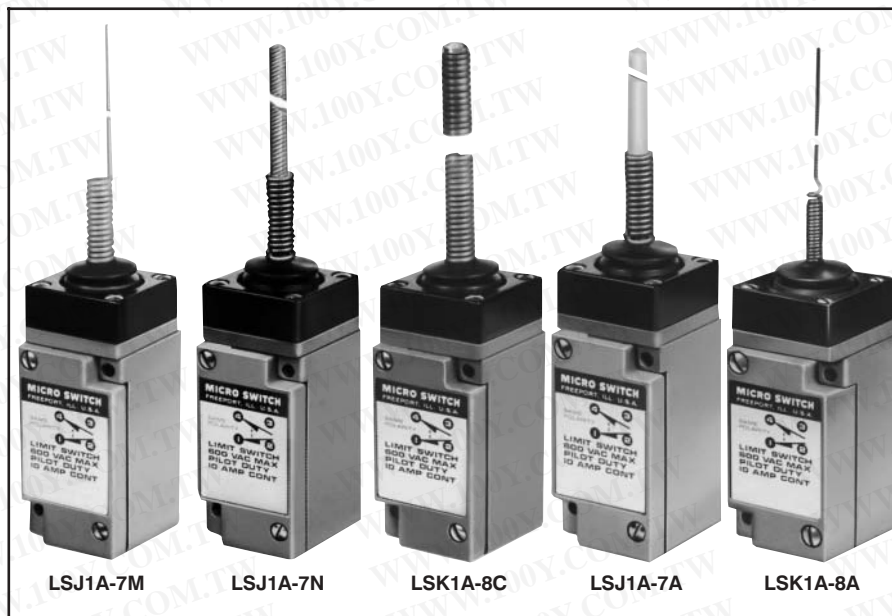
Use to avoid scratching or marring by actuator.

LSJ1A-7N — Flexible Cable Lever

LSK1A-8C — Stainless Steel Coil Spring Lever

LSK1A-8A — Cat Whisker

For low operating force applications



CONDUIT OPENINGS

For conduit openings other than 1/2-NPT and 3/4-NPT, substitute the following for LS in the catalog listing:

PG13,5 — LS3

2mm — LS4

PF1/2 — LS5

Rotary Actuated Switches



Side Rotary

Top Rotary

Order guides below and on page A35 provide specification and pricing information for side and top rotary switches.

Plug-in body style catalog listings consist of the complete plug-in base receptacle.

Lever arms are ordered separately. See pages A37-A39 for lever selection.

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

For low temperature, high temperature or preleading see page A42.

ASSEMBLED CONDITIONS

Catalog listings in order guide below are factory assembled with:

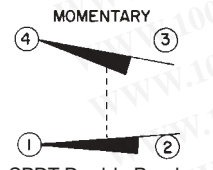
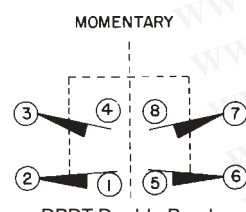

- Shaft of side rotary heads facing front of switch (label side).
- Head adjusted for both clockwise and counterclockwise operation.
- Light on indicator versions wired to N.O. circuit.

Refer to facing page to specify modifications to these assembled conditions.

PRELEADED OR CONNECTORIZED VERSIONS

Refer to page A42.

ORDER GUIDE (Momentary action. UL listed, CSA certified, CE approved. Levers not included. Order separately pages A37-A39.)

| Circuitry | Electrical Rating | Body** Style | Catalog Listings | | | | | |
|---|-------------------|---|------------------|------------------|--------------|--------------|-----------------------------|----------------------------|
| | | | Standard | Low Differential | 5° Pretravel | Low Torque | Low Differential Low Torque | Top Rotary High Overtravel |
| Silver contacts | A | Plug-in 1/2" Conduit | LSA1A | LSP1A | LSU1A | LSR1A | LSH1A | LSB1A |
| Gold cross point contacts | C | Plug-in 1/2" Conduit | LSA1J | | LSU1J | — | — | LSB1J |
| Gold plated contacts | C | | LSA1E | LSP1E | — | LSR1E | LSH1E | — |
| Silver contacts | A* | 120 V Ind. lite Plug-In* 1/2" Conduit | LSA5A | LSP5A | LSU5A | LSR5A | LSH5A | LSB5A |
| | A* | 240 V Ind. lite Plug-In 1/2" Conduit | LSA8A | LSP8A | LSU8A | LSR8A | LSH8A | LSB8A |
|  SPDT Double Break | A* | 24 V LED lite 1.5mA max. Auto polarity Plug-in 1/2" Conduit | LSA9A | LSP9A | LSU9A | LSR9A | LSH9A | LSB9A |
| | A | Non plug-in 1/2" Conduit | LSA3K | LSP3K | LSU3K | LSR3K | LSH3K | LSB3K |
|  DPDT Double Break | B | Plug-in 3/4" Conduit | LSA2B | LSP2B | LSU2B | LSR2B | LSH2B | LSB2B |
| | B | Plug-in 1/2" Conduit | LSA6B | LSP6B | LSU6B | LSR6B | LSH6B | LSB6B |
| | B | 120 V Ind. lite Plug-in 3/4" Conduit | LSA2R | LSP2R | LSU2R | LSR2R | LSH2R | LSB2R |
| | B | Non plug-in 3/4" Conduit | LSA4L | LSP4L | LSU4L | LSR4L | LSH4L | LSB4L |
| | B | Non plug-in 1/2" Conduit | LSA7L | LSP7L | LSU7L | LSR7L | LSH7L | LSB7L |
|  SPNC Direct Acting | D | Non plug-in 1/2" Conduit | LSA3N | | | LSR3N | LSB3N | |

*Use at voltage indicated for light. Wired to N.O. circuit. Upper temperature limit for lighted units is 200°F (93°C). **Plug-in listings include base receptacle.

OPERATING CHARACTERISTICS

| | | | | | | | |
|------------------------------------|--------------------|--------------------------------|-----------------------|-----------------------|-------------------------------|-------------------------|-------------------------|
| Pretravel (degrees max.) | | 15 | 9 | 5 | 15 | 9 | 25 |
| Differential Travel (degrees max.) | SPDT | 5 | 3 | 3 | 5 | 3 | 10 |
| | DPDT | 7 | 4 | 4 | 7 | 4 | 12 |
| Overtravel (degrees min.) | | 60 | 66 | 70 | 60 | 66 | 110 |
| Operating Torque (max.) | NM = Newton meters | 0,45 Nm 4 in. lbs. | 0,45 Nm 4 in. lbs. | 0,45 Nm 4 in. lbs. | 0,19 Nm 1.7 in. lbs. | 0,19 Nm 1.7 in. lbs. | 0,28 Nm 2.5 in. lbs. |
| Operating Temperature Range*** | | 10°F to 250°F -12° to 121°C | | | 30°F to 250°F -1° to 121°C | | |

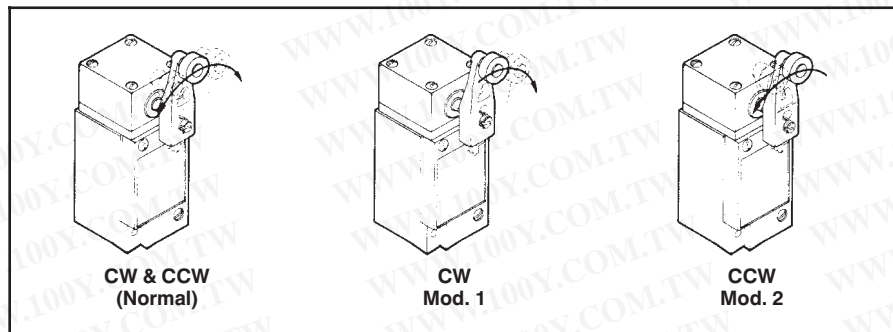
*** Completely fluorocarbon-sealed switches are preferred for use in temperatures above 200°F (93°C). Refer to page A42.

Limit/Enclosed

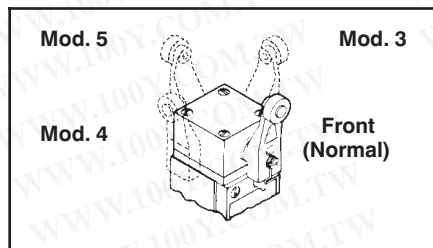
Rotary Actuated Switches

ACTUATION DIRECTION

(Drawings apply to listings on facing page only).



HEAD ORIENTATION



ASSEMBLY MODIFICATIONS

How to order

Momentary action rotary switches can be furnished in other than the normal assembled conditions described on the facing page. To specify modifications, add the number(s) shown below to the catalog listings. Prices are the same as their counterparts shown in the order guide.

Modification number suffixes are:

- 1 Clockwise operation only
- 2 Counterclockwise operation only
- 3 Shaft to right of switch front
- 4 Shaft to left of switch front
- 5 Shaft to back of switch
- 7 Indicator light wired to N.C. circuit

Examples:

Catalog Listing LSA1A23 is an LSA1A switch adjusted for counterclockwise operation only. The operating shaft is to the right side of the switch when viewing it from the front (label side). No lever.

Catalog Listing LSA8A7 is an LSA8A switch with the 240 volt indicator light wired to the N.C. circuit. No lever.

Switches with assembly modifications are not normally stocked and may extend delivery leadtimes.

LEVERS

Levers for rotary actuated switches are normally ordered as separate catalog listings. They also may be ordered by including a suffix to the switch catalog listing and adding the lever price. See pages A34-A39.

SWITCHES FOR SPECIAL APPLICATIONS

HDLS limit switches for special application needs are described on pages A42 and A43. They include: manifold mount, low temperature, complete fluorocarbon-sealed, gravity return, extra low torque and 20 Amp switches.

Adapter plates for interchanging HDLS with LS/200LS limit switches are described on page A49.

ELECTRICAL RATINGS

10 amps continuous carry (except for electrical rating "C"). Circuits on any one pole must be the same polarity.

AC Volts

Pilot duty: 600 VAC, 720VA

| Electrical Rating | Circuitry | VAC | Amps at 0.35 Power Factor | |
|-------------------|--|----------------------------------|---------------------------|-------|
| | | | Make | Break |
| A* | Single-Pole Double-Throw | 120 | 60 | 6 |
| | | 240 | 30 | 3 |
| | | 480 | 15 | 1.5 |
| | | 600 | 12 | 1.2 |
| B | Double-Pole Double-Throw | 120 | 30 | 3 |
| | | 240 | 15 | 1.5 |
| | | 480 | 7.5 | 0.75 |
| | | 600 | 6 | 0.60 |
| D | Single-Pole Single-Throw Normally Closed | 120 | 60 | 6 |
| | | 240 | 30 | 3 |
| | | 480 | 15 | 1.5 |
| | | 600 | 12 | 1.2 |
| C** | Single-Pole Double-Throw | 250 VAC or 60 VDC, .050 amp max. | | |

DC Volts

Pilot duty: 240 VDC, 30 watts

| Electrical Rating | Circuitry | VDC | Make and Break Amps | |
|-------------------|--|----------------------------------|---------------------|-----------|
| | | | Inductive | Resistive |
| A* | Single-Pole Double-Throw | 120 | 0.25 | 0.8 |
| | | 240 | 0.15 | 0.4 |
| B | Double-Pole Double-Throw | 120 | 0.25 | 0.8 |
| | | 240 | 0.15 | 0.4 |
| D | Single-Pole Single-Throw Normally Closed | 30 | 4.3 | 4.3 |
| | | 120 | 1.1 | 1.1 |
| C** | Single-Pole Double-Throw | 250 VAC or 60 VDC, .050 amp max. | | |

*For switches with indicator light, use only at voltage stated for indicator light.

**These switches have either gold plated or gold cross point contacts. Cross point contacts improve high reliability of contact make when particle contamination is a problem or low energy loads must be carried.

Rotary Actuated Switches

ADDITIONAL CIRCUITRY/ACTION OPTIONS



ASSEMBLY MODIFICATIONS

Switches in the order guide, below, have the operating shaft facing front. If another orientation is desired, add a number from the drawing to the catalog listing.

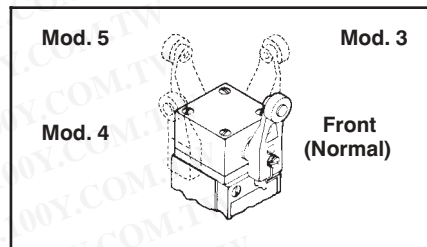
To specify the indicator light wired to the N.C. circuit, add 7 to the catalog listing.

Example:

Catalog Listing LSN5A37 is an LSN5A switch with the shaft facing right and the indicator light wired to the N.C. circuit.

HEAD ORIENTATION

(Drawing applies to this page only.)



ORDER GUIDE

Maintained, center neutral, or sequential action. UL listed, CSA certified. Levers not included (see pages A36-A39).

For low temperature, all Viton or preleaded versions see page A42.

| Circuitry | Elec. Rating Page A23 | Body** Style | Maintained† | | Center Neutral (Pole 1 operates CCW Pole 2 operates CW) | Sequential (Pole 1 operates before Pole 2, either CW or CCW or both) |
|---|-----------------------|-------------------------------------|-----------------------|---------------------|---|---|
| | | | 360° Alternate Action | 2 Position Standard | | |
| <p>SPDT Double Break Maintained</p> | A | Plug-in 1/2" Conduit | LSQ300 | LSN1A | <p>SPDT Double Break each direction Electrical rating B</p> | <p>(2) SPDT Double Break with 10° between operation Electrical rating B</p> |
| | A* | 120V Ind. Lite Plug-in 1/2" Conduit | | LSN5A | | |
| | A* | 240V Ind. Lite Plug-in 1/2" Conduit | | LSN8A | | |
| | A | Non plug-in 1/2" Conduit | LSQ310 | LSN3K | | |
| <p>DPDT Double Break Maintained</p> | B | Plug-in 3/4" Conduit | | LSN2B | LSM2D | LSL2C |
| | B | Plug-in 1/2" Conduit | | LSN6B | LSM6D | LSL6C |
| | B | Non plug-in 3/4" Conduit | LSQ320 | LSN4L | LSM4N | LSL4M |
| | B | Non plug-in 1/2" Conduit | | LSN7L | LSM7N | LSL7M |
| <p>SP Normally Closed Direct Acting</p> | D | Non plug-in 1/2" Conduit | | LSN3N | | |

* Use at voltage indicated for light. Wired to N.O. circuit. Upper temperature for lighted units is 200°F (93°C).

** Plug-in listings include base receptacle.

† Total travel is approximately 80° max. Maintained contact switch normally used with LSZ53 yoke actuator.

OPERATING CHARACTERISTICS

| | | | | |
|--|--------------------|------------------------------|--------------------|--|
| Pretravel (degrees max.) | SPDT | 65 | Not Applicable | Not Applicable |
| Note: Mechanical trip before electrical trip | DPDT | 65 | 18 | 1st Pole 15 2nd Pole 10 additional (max.) |
| Differential Travel (degrees max.) | SPDT | 40 | Not Applicable | Not Applicable |
| | DPDT | 40 | 10 | For each pole — 5 degrees |
| Overtravel (degrees min.) | | 20 | 57 | 48 |
| Operating Torque (max.) | Nm = Newton meters | 0,45 Nm 4 in. lbs. | 0,45 4 in. lbs. | 0,45 4 in. lbs. |
| Operating Temperature Range*** | | 30°F to 250°F -1 to 121°C | | 10°F to 250°F -12 to 121°C |

*** Completely fluorocarbon-sealed switches are preferred for temperatures above 200°F (93°C). Refer to page A42.

Limit/Enclosed

Levers for Rotary Actuated Switches

Levers for use with side or top rotary actuated switches are available in a wide choice of sizes and materials, as shown in the order guides on the following pages. Rollers may be on either side of the lever to best match the external actuating mechanism. They permit a wide range of cam tracking possibilities (see drawings below).

LSZ51 standard rollers and **LSZ55** offset roller levers have a fixed 1.5 inch (38,1 mm) radius.

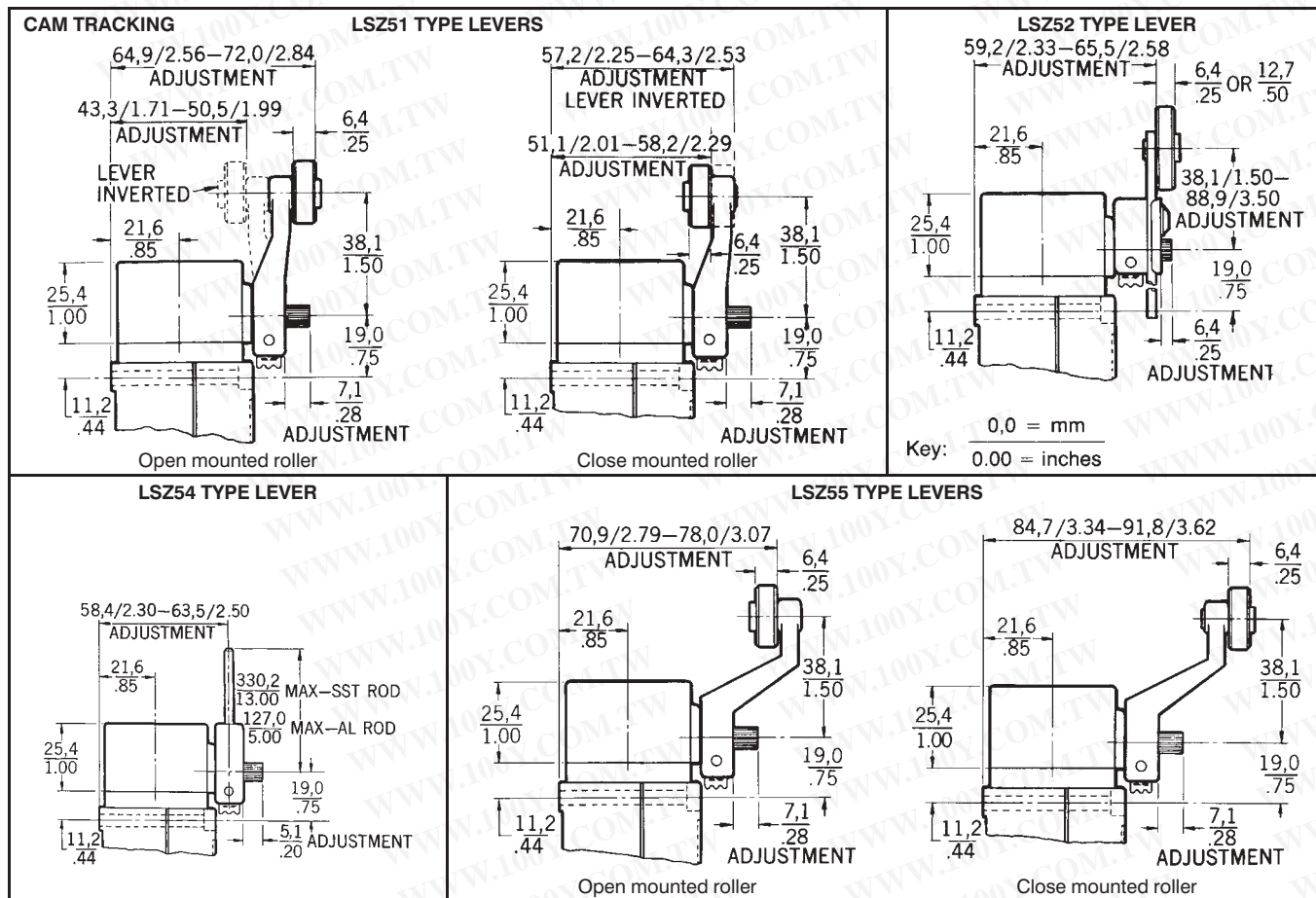
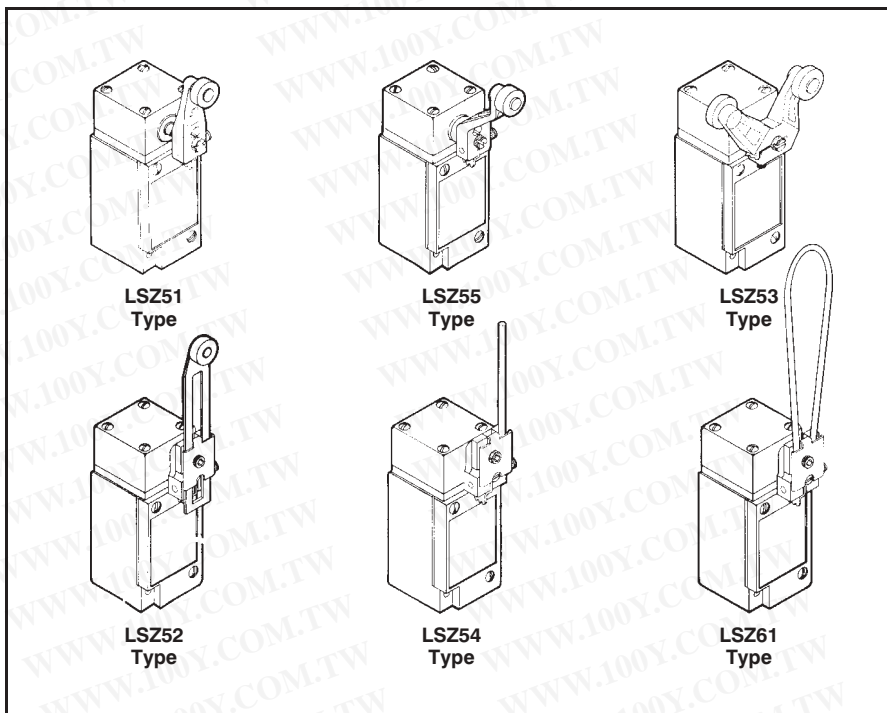
LSZ53 yoke roller levers are used with side rotary maintained switches, where a reciprocating actuator operates the switch in one direction and reverses it when moving in the other direction.

LSZ52 adjustable length roller levers are universally adaptable to many application needs.

LSZ54 rod levers may be formed by the user. The hub permits adjusting of lever length. Also available in flexible versions.

LSZ61 is an adjustable loop lever.

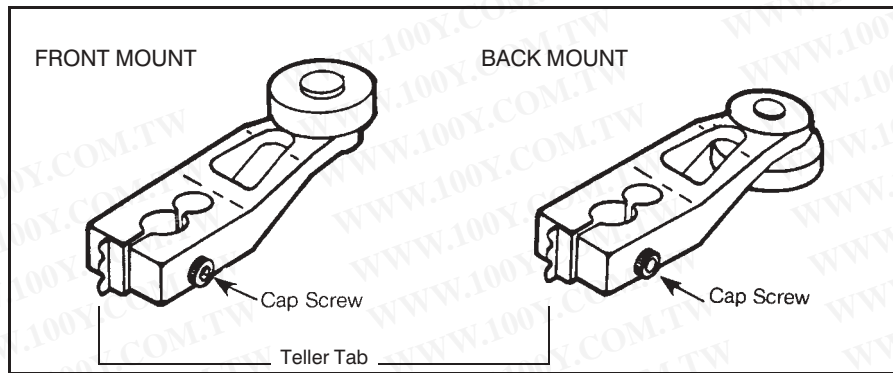
For lever order guides, refer to the following pages.



NOTE: Shaft dia. is .29 in.

Levers for Rotary Actuated Switches

Rollers may be mounted on the front or back side of the lever. (See below).



Levers shown in the order guides are furnished with cap screws which accommodate a 5/64-inch allen wrench.

Teller tab assures proper torque. When it cannot be moved, the lever is tight enough to prevent slippage.

TO ORDER LEVERS SEPARATELY

Catalog listings in the shaded column of the order guides are used when ordering levers as separate items, i.e., LSZ51A, LSZ53B, etc.

TO ORDER LEVERS WITH SWITCHES

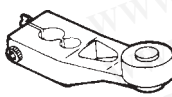
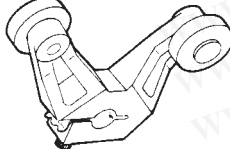

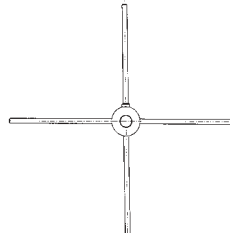
Refer to the lefthand shaded column with dash-number suffixes to order lever and switches together. Add the appropriate suffix to the switch catalog listing.

Example:

Catalog Listing LSA1A-1B is an LSA1A switch with a standard lever which has the steel roller mounted on the front side.

Limit/Enclosed

ORDER GUIDE

| Type | Radius (in.) | Roller Mounted On This Side Of Lever | | | Material | To Order Lever With Switch, Add Suffix To Switch Catalog Listing | Use These Catalog Listings To Order Levers Separately |
|---|--------------|--------------------------------------|-----------|--------------|--------------------------------|--|---|
| | | Dia. in. | Width in. | | | | |
| LSZ51 Series Std. Roller Lever  | 1.5 | Front | .75 | .25 | Nylon | -1A | LSZ51A |
| | 1.5 | Front | .75 | .25 | Steel | -1B | LSZ51B |
| | 1.5 | Back | .75 | .25 | Nylon | -1C | LSZ51C |
| | 1.5 | Back | .75 | .25 | Steel | -1D | LSZ51D |
| | 1.5 | Front | 1.0 | .50 | Nylon | -1F | LSZ51F |
| | 1.5 | Front | 1.5 | .25 | Nylon | -1G | LSZ51G |
| | 1.5 | Back | 1.0 | .50 | Nylon | -1J | LSZ51J |
| | 1.5 | Back | .75 | .25 | Ball Bearing | -1L | LSZ51L |
| | 1.5 | Back | .75 | 1.30 | Nylon | -1M | LSZ51M |
| | 1.5 | Back | .75 | .375 | Stainless | -1T | LSZ51T |
| | 1.5 | Front | .75 | .50 | Nylon | -1P | LSZ51P |
| | 1.5 | Front | 1.59 | .25 | Nylon | -1R | LSZ51R |
| | 1.5 | — | — | — | Less Roller | — | LSZ51 |
| LSZ53 Series Yoke  Back view of LSZ53E | 1.5 | Front-Back | .75 | .25 | Nylon | -3A | LSZ53A |
| | 1.5 | Front-Back | .75 | .25 | Steel | -3B | LSZ53B |
| | 1.5 | Front-Front | .75 | .25 | Steel | -3D | LSZ53D |
| | 1.5 | Back-Front | .75 | .25 | Nylon | -3E | LSZ53E |
| | 1.5 | Back-Back | .75 | .25 | Nylon | -3S | LSZ53S |
| | 1.5 | Back-Back | .75 | .25 | Steel | -3P | LSZ53P |
| | 1.5 | Back-Front | .75 | .25 | Steel | -3U | LSZ53U |
| | 1.5 | Back-Front | .75 | 1.25 | Nylon | -3M | LSZ53M |
| 1.5 | — | — | — | Less Rollers | — | LSZ53 | |
| LSZ55 Series Offset  | 1.5 | — | — | — | Less Roller | — | LSZ55 |
| | 1.5 | Back | .75 | .25 | Nylon | -5A | LSZ55A |
| | 1.5 | Back | .75 | .25 | Steel | -5B | LSZ55B |
| | 1.5 | Front | .75 | .25 | Nylon | -5C | LSZ55C |
| | 1.5 | Front | .75 | .25 | Steel | -5D | LSZ55D |
| | 1.5 | Front | .75 | .50 | Nylon | -5E | LSZ55E |
| | 1.5 | Front | 1.5 | .25 | Nylon | -5K | LSZ55K |
| 1.5 | Front | 1.0 | .50 | Nylon | -5F | LSZ55F | |
| LSZ69 Series* Spoke  | — | — | 6.0 | — | Stainless (fixed) | — | LSZ69AA |
| | — | — | 6.0 | — | Stainless (spokes replaceable) | — | LSZ69BA |

*For use with LSQ300 Series. Hub is aluminum. See page A59 for dimensions.

Levers for Rotary Actuated Switches

METRIC CONVERSION

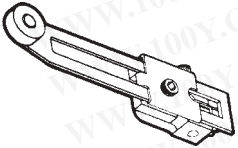
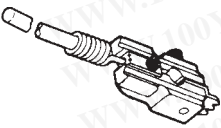
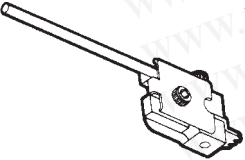

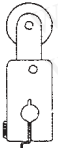
| | | |
|----------|---|---------|
| .25 in. | = | 6,35 mm |
| .5 in. | = | 12,7 mm |
| .625 in. | = | 15,9 mm |
| .75 in. | = | 19,1 mm |
| 1.0 in. | = | 25,4 mm |
| 1.5 in. | = | 38,1 mm |
| 2.0 in. | = | 50,8 mm |
| 2.5 in. | = | 63,5 mm |
| 3.0 in. | = | 76,2 mm |
| 4.8 in. | = | 122 mm |
| 5.0 in. | = | 127 mm |
| 6.0 in. | = | 152 mm |
| 12.0 in. | = | 305 mm |

LOW TORQUE APPLICATION CONSIDERATION

When heavier levers (such as LSZ52 series and LSZ54 series, below), are used with low torque LSH, LSR, LSS and LST switches, it is desirable to mount the switch with the lever down. In this way, gravity will assist in restoring levers to the free position.

Conversely, when these switches are mounted with the lever upright, gravity tends to work to prevent lever return after switching actuation. By counterbalancing the lever or adding an auxiliary extension spring, this problem may be overcome. Contact the 800 number for application assistance.

ORDER GUIDE

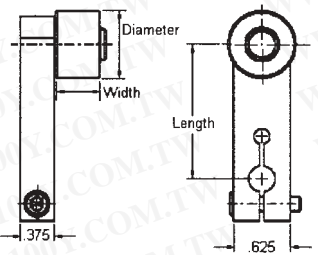
| Type | Radius (in.) | Roller Mounted On This Side Of Lever | Dia. in. | Width in. | Material | To Order Lever With Switch, Add Suffix To Switch Catalog Listing | Use These Catalog Listings To Order Levers Separately |
|---|------------------------------|--|----------|-----------|----------------------------------|--|---|
|  | 1.5-3.5 | Back | .75 | .25 | Nylon | -2A | LSZ52A |
| | 1.5-3.5 | Back | .75 | .25 | Steel | -2B | LSZ52B |
| | 1.5-3.5 | Front | .75 | .25 | Nylon | -2C | LSZ52C |
| | 1.5-3.5 | Front | .75 | .25 | Steel | -2D | LSZ52D |
| | 1.5-3.5 | Front | .75 | 1.30 | Nylon | -2E | LSZ52E |
| | 1.5-3.5 | Front | 1.0 | .5 | Nylon | -2J | LSZ52J |
| | 1.5-3.5 | Front | 1.5 | .25 | Nylon | -2K | LSZ52K |
| | 1.5-3.5 | Front | .75 | .25 | Ball Bearing | -2L | LSZ52L |
| | 1.5-3.5 | Front | 2.0 | .25 | Nylon | -2M | LSZ52M |
| | 1.5-3.5 | Front | .75 | .5 | Nylon Less Roller Hub Only | -2N — | LSZ52N LSZ52 LSZ54 |
|  | 12.0 | — | .25 | — | Delrin Rod w/Spring | — | LSZ68 |
| | 16.0 | — | .25 | — | Delrin Rod w/Spring | — | LSZ617 |
|  | 5.5 | — | — | — | Aluminum | -4M | LSZ54M |
| | 13.0 | — | — | — | Stainless Steel | -4N | LSZ54N |
| | 20.0 | — | — | — | Delrin Rod | -4P | LSZ54P |
| | 12.0 | — | — | — | Spring Wire | -4R | LSZ54R |
| | 4.8 | — | — | — | Flexible Cable Hub Only | -4V — | LSZ54V* LSZ54 |
|  | 6" Flexible Loop/Cap Screw | | | | Nylatron | — | LSZ61 |
| | 9.5" Flexible Loop/Cap Screw | | | | Hub Only | — | LSZ618 LSZ54 |
| | | (measured from center line of shaft hole to tip of actuator) | | | | | |
|  | Front | Front | .75 | .25 | Nylon | — | LSZ60A |
| | Front | Front | .75 | .25 | Steel | — | LSZ60B |

See page A60 for dimensions.

* Hub not available separately.

Levers for Rotary Actuated Switches

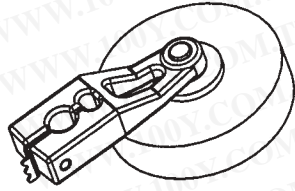
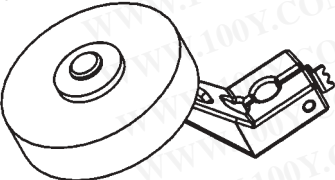
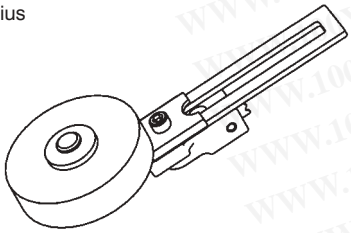
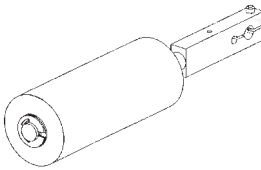
FIXED LENGTH LEVERS ORDER GUIDE

| Fixed Length Levers LSZ65 Series | Lever Length (in.) | Lever Listing | For a complete listing add your choice of roller suffix | | | |
|--|-----------------------|------------------|--|-------------|--------------|----------|
| | | | Roller Suffix | Dia. in. | Width in. | Material |
|  | .88 | LSZ65A | A | .75 | .25 | Nylon |
| | 1.38 | LSZ65B | B | .75 | .25 | Steel |
| | 1.25 | LSZ65L | C | .75 | .50 | Nylon |
| | 1.50 | LSZ65C | | | | |
| | 1.75 | LSZ65D | | | | |
| | 2.00 | LSZ65E | | | | |
| | 2.50 | LSZ65F | E | 1.00 | .50 | Nylon |
| | 3.00 | LSZ65G | F | 1.50 | .25 | Nylon |
| | 4.00 | LSZ65H | Example: LSZ65AB is a .88" long lever with a steel .75" diameter, .25" wide roller. | | | |
| | 5.00 | LSZ65J | | | | |
| | 6.00 | LSZ65K | | | | |

RUBBER ROLLER LEVERS

Ideal for elevator or conveyor applications requiring quiet operation or protection of delicate surfaces.

ORDER GUIDE

| Type | Radius (in.) | Roller Mounted On This Side Of Lever | Dia. in. | Width in. | Material | Catalog Listing |
|---|-----------------|---|-------------|--------------|----------|--------------------|
| | | | | | | |
| LSZ51 Series Std. Roller Lever  | 1.5 | Front | 1.6 | .5 | Rubber | LSZ51W LSZ51Y |
| | 1.5 | Front | 2.0 | .5 | Rubber | |
| LSZ55 Series Offset  | 1.5 | Front | 1.6 | .50 | Rubber | LSZ55W LSZ55Y |
| | 1.5 | Front | 2.0 | .50 | Rubber | |
| LSZ52 Series Adjustable Radius  | 1.5 to 3.5 | Front | 1.6 | .50 | Rubber | LSZ52W LSZ52Y |
| | 1.5 to 3.5 | Front | 2.0 | .50 | Rubber | |
| LSZ67 Series Conveyor Roller  | — | — | 1.5 | 3.8 | Plastic | LSZ67AA |

Limit/Enclosed

Plunger Actuated Switches

ASSEMBLED CONDITIONS

Catalog listings in order guide below are factory assembled with:

- Side plungers facing front (label side) of switch. Rollers on side plungers are in horizontal position.

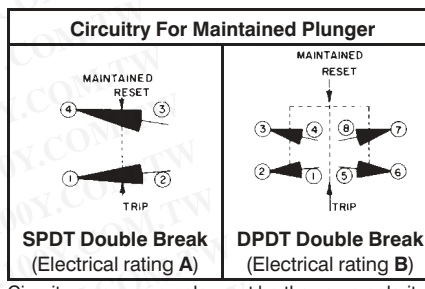
- Roller on top plungers are parallel to mounting surface.
- Lights on indicator versions are wired to N.O. circuit.

Refer to facing page to specify modifications to these assembled conditions.

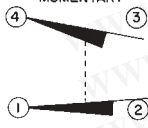
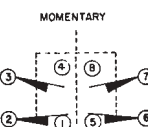

For low temperature, high temperature or preleaded versions see page A42.

ORDER GUIDE

Momentary action, except for maintained contact LSG version. UL listed, CSA certified.



Circuits on any one pole must be the same polarity.

| Catalog listings in this chart are complete switches. | | | Catalog Listings | | | | | | |
|--|-----------------------|--|------------------|--------|------------|---------------|--------|------------|------------------------------------|
| | | | Top Plungers | | | Side Plungers | | | |
| Circuitry | Elec. Rating Page A34 | Body** Style | Plain | Roller | Adjustable | Plain | Roller | Adjustable | Maintained (Circuitry Shown Above) |
| Silver contacts | A | Plug-in 1/2" Conduit | LSC1A | LSD1A | LSV1A | LSE1A | LSF1A | LSW1A | LSG1A |
| Gold cross pt. | C | Plug-in 1/2" Conduit | LSC1J | LSD1J | LSV1J | LSE1J | LSF1J | LSW1J | — |
| Gold plated | C | | — | LSD1E | — | — | LSF1E | LSW1E | — |
|  SPDT Double Break | A* | 120 V. Ind. Lite Plug-in 1/2" Conduit* | LSC5A | LSD5A | LSV5A | LSE5A | LSF5A | LSW5A | LSG5A |
| | A* | 240 V. Ind. Lite Plug-in 1/2" Conduit* | LSC8A | LSD8A | LSV8A | LSE8A | LSF8A | LSW8A | LSG8A |
| | A | Non plug-in 1/2" Conduit | LSC3K | LSD3K | LSV3K | LSE3K | LSF3K | LSW3K | LSG3K |
|  DPDT Double Break | B | Plug-in 3/4" Conduit | LSC2B | LSD2B | LSV2B | LSE2B | LSF2B | LSW2B | LSG2B |
| | B | 120 V Ind. Lite Plug-in 3/4" Conduit | LSC2R | LSD2R | LSV2R | LSE2R | LSF2R | LSW2R | LSG2R |
| | B | Plug-in 1/2" Conduit | LSC6B | LSD6B | LSV6B | LSE6B | LSF6B | LSW6B | LSG6B |
| | B | Non plug-in 3/4" Conduit | LSC4L | LSD4L | LSV4L | LSE4L | LSF4L | LSW4L | LSG4L |
| | B | Non plug-in 1/2" Conduit | LSC7L | LSD7L | LSV7L | LSE7L | LSF7L | LSW7L | LSG7L |
|  SPNC Direct Acting | D | Non plug-in 1/2" Conduit | — | — | — | LSE3N | LSF3N | LSW3N | LSG3N |

*Use at voltage indicated for light. Upper operating temperature limit for lighted units is 200°F. Wired to N.O. circuit. ** Plug-in listings include base receptacle.

OPERATING CHARACTERISTICS

| | | | | | | | |
|-----------------------------|------------------------------|---------------------------|--------------------------------|---------------------------|------------------------------|--------------------------------|-----------------------------|
| mm | 1,78 | 1,78 | 1,78 | 2,54 | 2,54 | 2,54 | 4,32 |
| Pretravel (in. max.) | .070 | .070 | .070 | .100 | .100 | .100 | .170 |
| Differential mm | SPDT | | 0,38 | 0,38 | 0,38 | 0,64 | 2,29 |
| | DPDT | | .015 | .015 | .015 | .025 | .090 |
| Travel (in. max.) | SPDT | | 0,51 | 0,51 | 0,51 | 0,89 | 2,29 |
| | DPDT | | .020 | .020 | .020 | .035 | .090 |
| mm | 4,83 | 4,83 | 4,83 | 4,83 | 4,83 | 4,83 | 2,0 |
| Overtravel (in. min.) | .190 | .190 | .190 | .190 | .190 | .190 | .080 |
| Newton | 17,8 | 17,8 | 17,8 | 26,7 | 26,7 | 26,7 | 44,5 |
| Operating Force (lb. max.) | 4 | 4 | 4 | 6 | 6 | 6 | 10 |
| Operating Point mm (in.) | 45,8 ±0,76 1.805 ±.030 | 55,9 ±1,02 2.200 ±.040 | 53,0 to 59,3 2.085 to 2.335 | 33,0 ±0,76 1.300 ±.030 | 44,1 ±1,02 1.735 ±.040 | 41,0 to 47,4 1.615 to 1.865 | 37,6 ±0,76 1.480 ±.030 |
| Operating Temperature Range | 10°F to 200°F -12 to 93°C | | 10°F to 200°F -12 to 93°C | | 10°F to 200°F -12 to 93°C | | 30°F to 200°F -1 to 93°C |

Plunger Actuated Switches/Assembly Modifications

ASSEMBLY MODIFICATIONS

How to order

To specify other than the normal assembled conditions described on facing page, add the following modification numbers to the catalog listing in the plunger switch order guide.

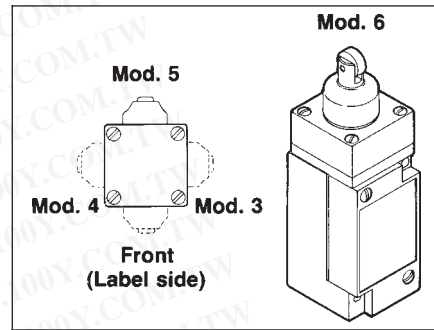
Mod.

- 3 Side plunger to right of switch front
- 4 Side plunger to left of switch front

- 5 Side plunger to back of switch
- 6 Roller on top plungers perpendicular to mounting surface
- 7 Light on indicator versions wired to N.C. circuit
- 8 Roller on side plungers in vertical position.

Example:

LSF1A3 is an LSF1A with the side roller plunger to the right side.



Wobble Actuated Switches

Wobble actuated switches have flexible levers which may be operated with any movement, except direct pull.

ORDER GUIDE

Momentary action. UL listed, CSA certified

| Catalog listings in this chart are complete switches. | | | Catalog Listings | | | | |
|---|-----------------------|--|------------------|-------------|----------------|----------|-------------|
| | | | 5.5" | 13" | 5.5" | 5.5" | 5.5" |
| Lever lengths measured from top mounting hole | | | Delrin Rod | Spring Wire | Cat*** Whisker | Cable | Coil Spring |
| Circuitry | Elec. Rating Page A34 | Body** Style | | | | | |
| Silver contacts | A | Plug-in 1/2" Conduit | LSJ1A-7A | LSJ1A-7M | LSK1A-8A | LSJ1A-7N | LSK1A-8C |
| Gold cross point | C | Plug-in 1/2" Conduit | LSJ1J-7A | LSJ1J-7M | LSK1J-8A | LSJ1J-7N | LSK1J-8C |
| Gold plated contacts | C | | — | LSJ1E-7M | — | — | — |
| Silver contacts MOMENTARY | A* | 120 V. Ind. Lite Plug-in 1/2" Conduit* | LSJ5A-7A | LSJ5A-7M | LSK5A-8A | LSJ5A-7N | LSK5A-8C |
| | A* | 240 V. Ind. Lite Plug-in 1/2" Conduit* | LSJ8A-7A | LSJ8A-7M | LSK8A-8A | LSJ8A-7N | LSK8A-8C |
| SPDT Double Break | A | Non plug-in 1/2" Conduit | LSJ3K-7A | LSJ3K-7M | LSK3K-8A | LSJ3K-7N | LSK3K-8C |
| Silver contacts | B | Plug-in 3/4" Conduit | LSJ2B-7A | LSJ2B-7M | LSK2B-8A | LSJ2B-7N | LSK2B-8C |
| | B | 120 V Ind. Lite Plug-In 3/4" Conduit | LSJ2R-7A | LSJ2R-7M | LSK2R-8A | LSJ2R-7N | LSK2R-8C |
| | B | Plug-in 1/2" Conduit | LSJ6B-7A | LSJ6B-7M | LSK6B-8A | LSJ6B-7N | LSK6B-8C |
| | B | Non plug-in 3/4" Conduit | LSJ4L-7A | LSJ4L-7M | LSK4L-8A | LSJ4L-7N | LSK4L-8C |
| | B | Non plug-in 1/2" Conduit | LSJ7L-7A | LSJ7L-7M | LSK7L-8A | LSJ7L-7N | LSK7L-8C |

OPERATING CHARACTERISTICS

| | | | | | |
|--------------------------------|---------------|------|------------|------|------|
| mm | 25,4 | 102 | 51 | 38 | 51 |
| Pretravel (approx. in. radius) | 1 | 4 | 2 | 1.5 | 2 |
| Newton | 2,78 | 1,39 | 1,39 | 1,95 | 1,95 |
| Operating Force (oz. max.) | 10 | 5 | 5 | 7 | 7 |
| Operating Temperature Range | 10°F to 200°F | | 12 to 93°C | | |

* Use at voltage indicated for light. Upper operating temperature limit for lighted units is 200°F.

** Plug-in listings include base receptacle.

*** These cat whiskers have 5 1/2 inch long levers. To specify 7 1/2 inch length, substitute **-8B** for **-8A**.

Limit/Enclosed



NOTE: LSS1H and LST1H switches are usually mounted with the lever down. Heavier levers, such as the LSZ54N (shown) and LSZ52D, should be used to enable gravity to help restore them to the free position. These levers are described on page A38.

GRAVITY RETURN SIDE ROTARY SWITCHES

LSS1H gravity return side rotary limit switches have no return spring mechanism. The weight of the actuating lever must provide the force to restore it to the free position.

The extremely light 5 in. oz. max. operating torque is useful in conveyor applications, since it enables operation by small

or lightweight objects. Because the head is unsealed, the LSS1H is classed as NEMA 1. However, the switch cavity is sealed to protect the contacts.

The LSS1H has the plug-in body style, with a ½ in. conduit opening.

Circuitry is SPDT double break. Refer to electrical rating **B**, page A34.

ORDER GUIDE (Momentary action)

| Operating Torque Max. | Differential Travel Max. | Total Travel No Stop | Catalog Listing |
|-----------------------|--------------------------|----------------------|-----------------|
| 0,035 Nm 5 in. oz. | 12° | 360° | LSS1H |

Nm = Newton meters

EXTRA LOW TORQUE SIDE ROTARY SWITCHES

LST1H extra low torque side rotary limit switches have a low force return spring and a maximum operating torque of 12 in. oz. It is NEMA 1, because of an unsealed head. But, as with the LSS1H, the switch cavity is sealed.

The LST1H has a plug-in body style, with a ½ in. conduit opening.

Circuitry is SPDT double break. Refer to electrical rating **B**, page A34.

ORDER GUIDE (Momentary action)

| Operating Torque max. | Pre-Travel max. | Over-Travel min. | Differential Travel max. | Total Travel ref. | Catalog Listing |
|------------------------|-----------------|------------------|--------------------------|-------------------|-----------------|
| 0,085 Nm 12 in. oz. | 15° | 60° | 5° | 85° nom. | LST1H |

Nm = Newton meters

SPECIFYING GUIDE FOR:

HIGH TEMPERATURE-CHEMICAL RESISTANT SWITCHES

Completely fluorocarbon (FC)-sealed HDLS limit switches have a full FC body gasket covering the switch cavity. Rotary types have an extra FC seal on the operating shaft, while plunger versions have FC boot seals.

They are for use in applications where the environment includes fire-resistant synthetic fluids. In addition to most all fluids, the FC sealed switches may be used with such industrial fluids as Cellulube, Fyrquell, Houghto-Safe, Pydraul, and other special cutting and hydraulic oils. **For seal performance chart see page A56.**

The additional FC seals also promote longer operating life for rotary actuated HDLS switches in applications where the temperatures are normally 10° to 250°F (-12 to 121°C). If prewired with cable, then temperature limits are 221°F (105°C) dry and 140°F (60°C) wet.

How to order

Insert the additional letters **Y** and **C** in the appropriate places in the standard catalog listing as shown in the example below.

Example:
LSA1A — standard side rotary plug-in switch
LSYAC1A — Completely FC-sealed version of LSA1A

LOW TEMPERATURE SWITCHES

All forms of HDLS limit switches are also available in low temperature construction.

Design changes include fluorosilicone diaphragm, shaft seals, and external boot seal (where applicable) plus a low temperature lubricant. If prewired with cable, temperature limits are 14°F (-10°C) flex and 22°F (-30°C) no flex. **The temperature ranges for specific switches see page A56.**

How to order

A low temperature version of any HDLS limit switch shown in the order guide can be specified by inserting the additional letters **Y** and **B** into the appropriate place in the standard switch listing as shown in the example below.

Example:
LSA1A — standard side rotary plug-in switch
LSYAB1A — low temperature version of LSA1A

FACTORY SEALED PRE-WIRED LIMIT SWITCHES

FEATURES

- Prewired with 6 ft STOOW-A cable or 4, 5 or 9-pin connectors (other lengths available)
- Wire entry area completely factory sealed
- (Cable version) NEMA 1, 6, 6P, 12
- (Connector version) NEMA 1, 6, 6P, 12, 13

How to order

To order factory sealed switches, add the modification codes shown below to standard HDLS listings:

| Circuitry | Cable | ½" Connector |
|-----------|-------|--|
| SPDT | C | A (4 pin mini) B (5 pin mini) DD (4 pin micro) |
| DPDT | M | R (9 pin) |

Example: LSA1AC — LSA1A with 6 ft of 5 conductor STOOW-A cable.
LSJ2BM-7N — LSJ2B-7N with 6 ft of 9 conductor STOOW-A cable.
LSA1AB — LSA1A with 5 pin receptacle.
LSA1ADD — 4 pin micro-change connector.

NOTE: Connector versions available with ½ in. conduit tap only. Refer to page A46 for pin-out and mating connector. Refer to page A58 for dimensions.

Limit and Enclosed Switches

Switches for Special Applications

HIGH CAPACITY LIMIT SWITCH



This series has a wide gap contact block that handles a higher make/break DC load. In addition, a special lever arm has a serrated shaft hole and a capscrew with locking nut for attaching the lever to the rotary shaft. (See inset.) This assures a firm grip on the operating shaft and positive retention of the lever adjustment.

ORDER GUIDE INCLUDING LEVER

| Catalog Listing | Description |
|-----------------|---|
| LSQ051 | Double pole, non-plug-in 3/4" Conduit opening |
| LSQ052 | Double pole, plug-in 3/4" Conduit opening |
| LSQ053 | Single pole, non-plug-in 1/2" Conduit opening |
| LSQ054 | Single pole, plug-in 1/2" Conduit opening |
| LSZ616 | Replacement lever for above listings |

FEATURES

- High DC current ratings
- 20 amp rating at 120 VAC (single pole)
- Plug in or non-plug in
- Positive retention lever arm

The need for precise operation, coupled with severe environmental conditions places rigid demands on any control. MICRO SWITCH satisfies these demands with its high capacity Heavy Duty Limit Switch, which is designed to perform reliably under these conditions.

ELECTRICAL RATINGS

| Circuitry | Voltage | Single Pole | | Double Pole | |
|-----------------------|---------|----------------|----------------|----------------|----------------|
| | | Resistive Load | Inductive Load | Resistive Load | Inductive Load |
| DPDT Double Break | 125 VDC | 2.0A | 1.0A | 1.0A | 0.4A |
| | 250 VDC | 0.7A | 0.4A | 0.4A | 0.2A |
| SPDT Double Break | 120 VAC | 20A | 20A | 10A | 10A |
| | 240 VAC | 15A | 15A | 7.5A | 7.5A |
| | 480 VAC | 10A | 10A | 5A | 5A |
| | 600 VAC | 5A | 5A | 2.5A | 2.5A |

Maximum operating rate - 15 operations per minute

Limit/Enclosed

MANIFOLD MOUNT SWITCHES



Catalog listings of plug-in HDLS switches in the order guides can be converted to specify manifold mount versions.

SINGLE-POLE CATALOG LISTINGS

Convert a single-pole, standard duty rated switch listing to specify manifold mount by changing the fifth character in the catalog listing to **F**.

Example:

LSA1A — standard side rotary plug-in switch

LSA1F — above switch in manifold mount

Convert a single-pole, electronic duty switch listing by changing the fifth character in the catalog listing to **G**.

Example:

LSA1J — standard side rotary plug-in switch

LSA1G — above switch in manifold mount

LSZ4015 — plug-in base only.

Manifold mount HDLS limit switches have an opening for the lead wires through the gasketed mounting base. The gasket maintains the oil tightness when the switch is surface mounted.

The manifold mount switches are available in either single-pole or double-pole forms of the plug-in types only. Mounting and wiring of the single-pole and double-pole forms is completely interchangeable. Any operating head type can be provided.

DOUBLE-POLE CATALOG LISTINGS

Convert double-pole catalog listings (except LSL sequential action and LSM center neutral types) to specify manifold mount by changing the fourth and fifth characters in the catalog listing to **2F**.

Example:

LSA2B — standard side rotary plug-in switch

LSA2F — above switch in manifold mount

Change the fourth and fifth characters of LSM listings to **2H**.

Example:

LSM2D — center neutral switch

LSM2H — above switch in manifold mount

Change the fourth and fifth characters of LSL listings to **2G**.

Example:

LSL2C — sequential action switch

LSL2G — above switch in manifold mount

LSZ4016 — plug-in base only.

Limit and Enclosed Switches

Harsh Duty Epoxied Limit Switch

HDLS Series



Replacement head part number is metal stamped; won't wash off

Fulfills your actuation criteria
Wide variety of operating heads

Fluorocarbon diaphragm seal

Eliminate fluid infiltration
Epoxied construction

Try your "step test"
Zinc diecast housing, head & body

Additional body seal
Fluorocarbon sealed cover

High compression ridge

Your choice of termination options

Exceeds NEMA 6P

Machine processes and their associated fluids demand **more** than the standard NEMA 6P switch provides.

The Harsh Duty Limit Switch meets the environmental challenges found in actual automotive production facilities and food and beverage lines.

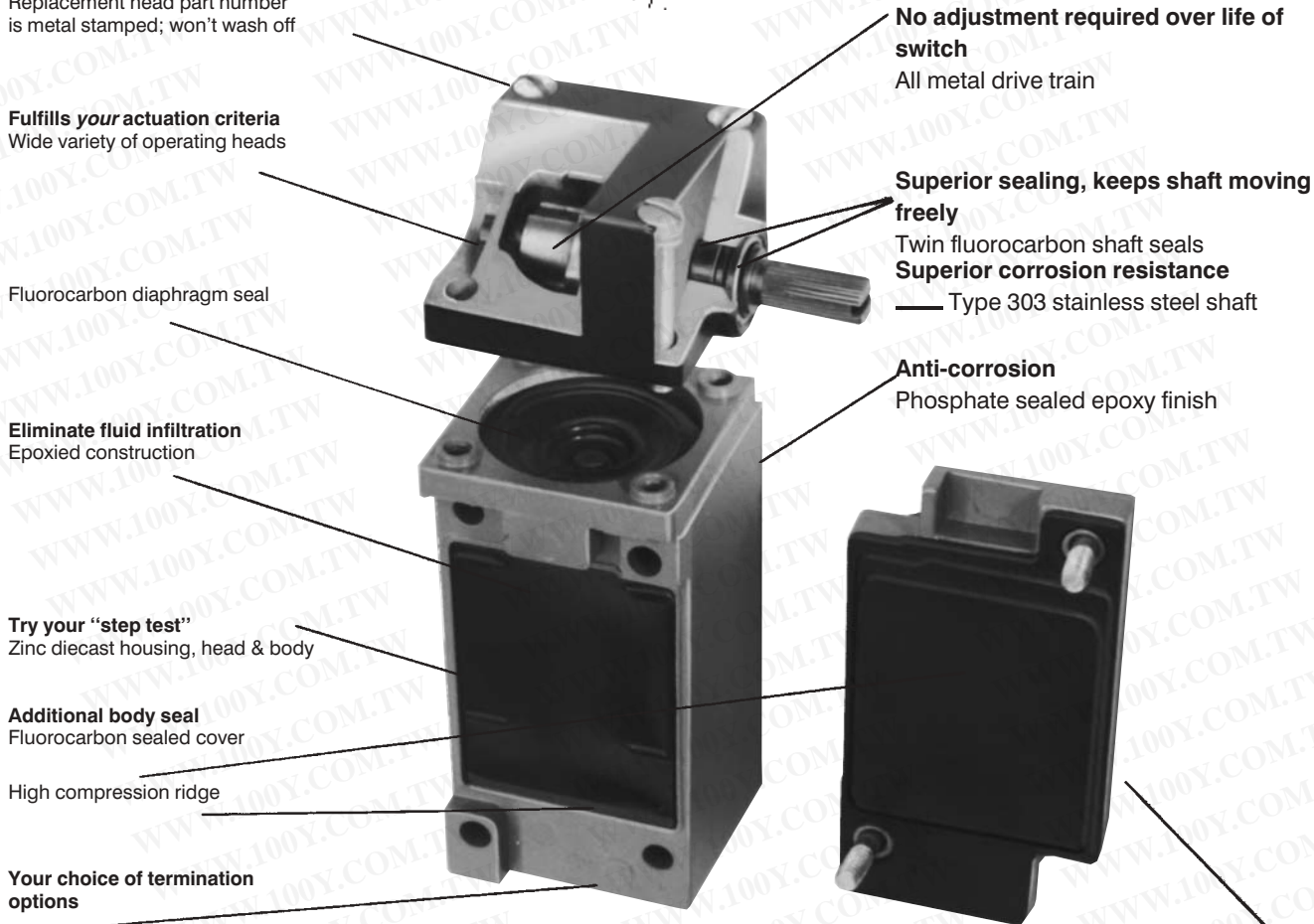
The MICRO SWITCH Harsh Duty Limit Switch is **made** for environments that surpass NEMA 6P test criteria.

No adjustment required over life of switch
All metal drive train

Superior sealing, keeps shaft moving freely
Twin fluorocarbon shaft seals
Superior corrosion resistance
Type 303 stainless steel shaft

Anti-corrosion
Phosphate sealed epoxy finish

Valuable trouble shooting tool
120 VAC neon or 24 V LED indicators available



Fully Potted Limit Switches



FEATURES

- Excellent sealing capability for withstanding Harsh Duty food and beverage wash downs and severe machine tool environments.
- Switch cavity epoxy filled
- Extra diaphragm sealing
- 12' STOOW-A cable or connector version (other lengths available)
- (Cable versions) NEMA 1, 6, 6P, 12
- (Connector versions) NEMA 1, 6, 6P, 12, 13
- All fluorocarbon seals (low temp. available)
- Exceeds NEMA 6P
- UL Listed, file #E37138
- CSA Certified, file #LR57326

The Totally Potted HDLS provides an extra degree of protection in harsh environments by sealing the basic switch cavity with epoxy. These switches are the same as the non plug-in HDLS except that the entire switch cavity is filled with epoxy in addition to the conduit entrance, and the switches are preleaded, either with cable or connectors.

HOW TO ORDER

Only the non plug-in HDLS switches can be converted to a Fully-Potted HDLS.

All indicators are wired to the N.O. terminals. (N.C. indicator available page A34.)

Limit/Enclosed

ORDER GUIDE – ROTARY ACTUATED SWITCHES

| Circuitry | Body Style | Catalog Listing | | | | | | |
|---|------------------------------------|-----------------|-------------|-------------|-------------|---------------------|-------------|--------------------------|
| | | Standard | Low D.T. | 5° P.T. | Low Torque | Low D.T. Low Torque | Maintained | Top Rotary High O.T. (1) |
| <p>SPDT Double-Break Elect. Rating: A</p> | Preleaded w/cable | LSYAC3KP-FP | LSYPC3KP-FP | LSYUC3KP-FP | LSYRC3KP-FP | LSYHC3KP-FP | LSYNC3KP-FP | LSYBC3KP-FP |
| | Pre-wired w/connector | LSYAC3KQ-FP | LSYPC3KQ-FP | LSYUC3KQ-FP | LSYRC3KQ-FP | LSYHC3KQ-FP | LSYNC3KQ-FP | LSYBC3KQ-FP |
| | Preleaded w/cable 120 VAC Neon | LSYAC5KP-FP | LSYPC5KP-FP | LSYUC5KP-FP | LSYRC5KP-FP | LSYHC5KP-FP | LSYNC5KP-FP | LSYBC5KP-FP |
| | Pre-wired w/connector 120 VAC Neon | LSYAC5KQ-FP | LSYPC5KQ-FP | LSYUC5KQ-FP | LSYRC5KQ-FP | LSYHC5KQ-FP | LSYNC5KQ-FP | LSYBC5KQ-FP |
| <p>DPDT Double-Break Elect. Rating: B</p> | Preleaded w/cable | LSYAC4LX-FP | LSYPC4LX-FP | LSYUC4LX-FP | LSYRC4LX-FP | LSYHC4LX-FP | LSYNC4LX-FP | LSYBC4LX-FP |
| | Pre-wired w/connector | LSYAC7LR-FP | LSYPC7LR-FP | LSYUC7LR-FP | LSYRC7LR-FP | LSYHC7LR-FP | LSYNC7LR-FP | LSYBC7LR-FP |

(1) Top rotary version

ORDER GUIDE – SIDE ROTARY (Continued)

| Circuitry | Body Style | Catalog Listing |
|--|-----------------------|-----------------|
| <p>SPDT Double Break each direction Electrical Rating: B</p> | Preleaded w/cable | LSYMC4NX-FP |
| | Pre-wired w/connector | LSYMC7NR-FP |

ORDER GUIDE – SIDE ROTARY (Continued)

| Circuitry | Body Style | Catalog Listing |
|--|-----------------------|-----------------|
| <p>(2) SPDT Double Break with 10° between operation Electrical Rating: B</p> | Preleaded w/cable | LSYLC4MX-FP |
| | Pre-wired w/connector | LSYLC7MR-FP |

For low temperature applications, substitute "Y_B" for the "Y_C".

See page A42 for temperature ratings.

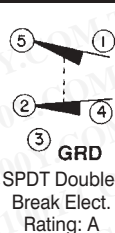
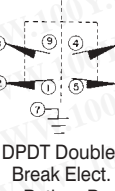
See pages A57-A63 for drawings.

See pages A33 and A35 for operating characteristics.

Other styles of fully potted limit switches are available than shown in this catalog. Consult the 800 number for further information.

Fully Potted Limit Switches

ORDER GUIDE - TOP PLUNGERS AND WOBBLE ACTUATORS

| Circuitry | Body Style | Catalog Listing | | | |
|--|------------------------------------|-----------------|-------------|-------------|------------------|
| | | Top Plungers | | | Wobble Actuators |
| | | Plain | Roller | Adjustable | |
|  <p>SPDT Double-Break Elect. Rating: A</p> | Preleaded w/cable | LSYCC3KP-FP | LSYDC3KP-FP | LSYVC3KP-FP | LSYJC3KP-**FP |
| | Pre-wired w/connector | LSYCC3KQ-FP | LSYDC3KQ-FP | LSYVC3KQ-FP | LSYJC3KQ-**FP |
| | Preleaded w/cable 120 VAC Neon | LSYCC5KP-FP | LSYDC5KP-FP | LSYVC5KP-FP | LSYJC5KP-**FP |
| | Pre-wired w/connector 120 VAC Neon | LSYCC5KQ-FP | LSYDC5KQ-FP | LSYVC5KQ-FP | LSYJC5KQ-**FP |
|  <p>DPDT Double-Break Elect. Rating: B</p> | Preleaded w/cable | LSYCC4LX-FP | LSYDC4LX-FP | LSYVC4LX-FP | LSYJC4LX-**FP |
| | Pre-wired w/connector | LSYCC7LR-FP | LSYDC7LR-FP | LSYVC7LR-FP | LSYJC7LR-**FP |

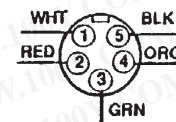
** WOBBLE ACTUATOR CODE:

| | | Head Style |
|----|-------------|------------|
| 7A | Delrin Rod | J |
| 7M | Spring Wire | J |
| 8A | Cat Whisker | K |
| 7N | Cable | J |
| 8C | Coil Spring | K |

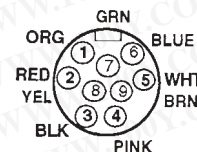
WIRING DIAGRAMS

Connectors = Numbers
Cables = Colors

Single-Pole



Double-Pole



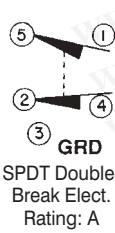
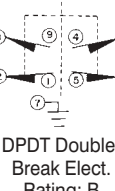
Pin numbers in wiring diagrams correspond to terminal numbers in circuitry diagrams on pages A45 and A46 only.

Electrical Ratings: Connector Versions

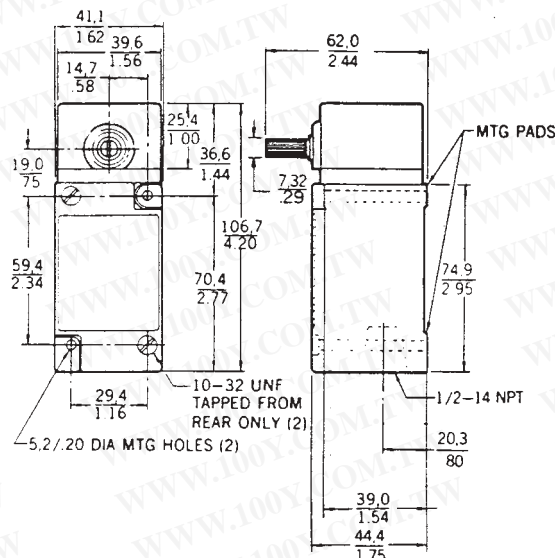
| | |
|-------|-------------|
| Mini | 600 VAC, 7A |
| Micro | 300 VAC, 3A |

For cable versions see page A34.

ORDER GUIDE - SIDE PLUNGERS

| Circuitry | Body Style | Catalog Listing | | | |
|--|------------------------------------|-----------------|-------------|-------------|-------------|
| | | Side Plungers | | | |
| | | Plain | Roller | Adjustable | Maintained |
|  <p>SPDT Double-Break Elect. Rating: A</p> | Preleaded w/cable | LSYEC3KP-FP | LSYFC3KP-FP | LSYWC3KP-FP | LSYGC3KP-FP |
| | Pre-wired w/connector | LSYEC3KQ-FP | LSYFC3KQ-FP | LSYWC3KQ-FP | LSYGC3KQ-FP |
| | Preleaded w/cable 120 VAC Neon | LSYEC5KP-FP | LSYFC5KP-FP | LSYWC5KP-FP | LSYGC5KP-FP |
| | Pre-wired w/connector 120 VAC Neon | LSYEC5KQ-FP | LSYFC5KQ-FP | LSYWC5KQ-FP | LSYGC5KQ-FP |
|  <p>DPDT Double-Break Elect. Rating: B</p> | Preleaded w/cable | LSYEC4LX-FP | LSYFC4LX-FP | LSYWC4LX-FP | LSYGC4LX-FP |
| | Pre-wired w/connector | LSYEC7LR-FP | LSYFC7LR-FP | LSYWC7LR-FP | LSYGC7LR-FP |

MOUNTING DIMENSIONS (For reference only) see page A58



(2) All indicators wired to N.O. terminals.

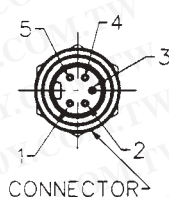
Temperature Ratings:

Dry Wet

Connector version: 250° F (121° C) 212° F (100° C)
Cable version: 221° F (105° C) 140° F (60° C)

Mating Female Connectors

| 5 Pin | | 9 Pin |
|-------|-----------|-------|
| 41306 | 3' cable | 47001 |
| 41307 | 6' cable | 47002 |
| 41308 | 12' cable | 47003 |



Limit and Enclosed Switches

Stainless Steel

HDLS Series



FEATURES

- Corrosion-resistant stainless steel non-plug in body, head and rotary shaft
- Stainless steel levers
- Fluorocarbon seals
- -12°C to +121°C (10°F to +250°F)
- UL Listed, file #E37138
- CSA Certified, file #LR57326
- NEMA 1, 3, 3R, 4 4X, 6, 6P, and 13

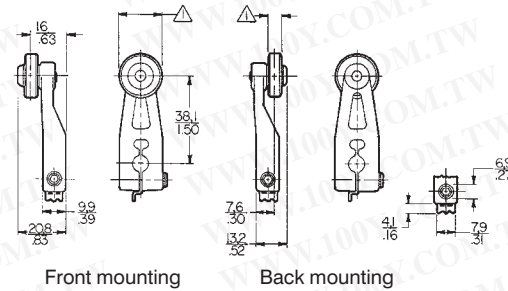
The HDLS is available in all stainless steel versions. These switches are designed for use in highly corrosive environments such as petrochemical plants, food processing plants, shipboard, and dockside locations. The type 316 cast stainless steel body is designed to minimize crevices where food particles could become trapped. The actuator, operating head, and screws are also stainless steel. All seals are fluorocarbon to provide excellent chemical resistance and to withstand operating temperatures up to 121°C (250°F) and pressurized steam cleaning. Preleaded and epoxy filled versions are also available. Contact Freeport or nearest branch office for details. Interchangeable with standard HDLS mounting.

Limit/Enclosed

ORDER GUIDE STAINLESS STEEL SWITCHES

| Head Type | Action | Circuitry | Catalog Listing* |
|-------------------------------------|------------|---|-----------------------|
| Side rotary standard | Momentary | SPDT (1 N.O.-1 N.C.) | LS2A4K |
| Side rotary standard | Momentary | SPDT (1 N.O.-1 N.C.) | LS2YAB4K (Low Temp) |
| Side rotary low torque | Momentary | SPDT (1 N.O.-1 N.C.) | LS2H4K |
| Side rotary standard | Momentary | DPDT (2 N.O.-2 N.C.) | LS2A4L |
| Side rotary low torque | Momentary | DPDT (2 N.O.-2 N.C.) | LS2H4L |
| Side rotary standard | Momentary | SPNC (1 N.C. Direct Acting) | LS2A3N |
| Side rotary low torque | Momentary | SPNC (1 N.C. Direct Acting) | LS2H3N |
| Side rotary Center neutral standard | Momentary | SPDT each dir. (1 N.O.-1 N.C.) CW (1 N.O.-1 N.C.) CCW | LS2M4N |
| Side rotary | Maintained | SPDT (1 N.O.-1 N.C.) | LS2N3K (1/2" conduit) |
| Side plunger | Momentary | SPDT (1 N.O.-1 N.C.) | LS2E4K |
| Side plunger | Momentary | DPDT (2 N.O.-2 N.C.) | LS2E4L |
| Side roller plunger | Momentary | SPDT (1 N.O.-1 N.C.) | LS2F4K |
| Side roller plunger | Momentary | DPDT (2 N.O.-2 N.C.) | LS2F4L |
| Top roller plunger | Momentary | SPNC (1 N.C. Direct Acting) | LS2D3N |
| Top roller plunger | Momentary | SPDT (1 N.O.-1 N.C.) | LS2D4K |
| Top roller plunger | Momentary | DPDT (2 N.O.-2 N.C.) | LS2D4L |

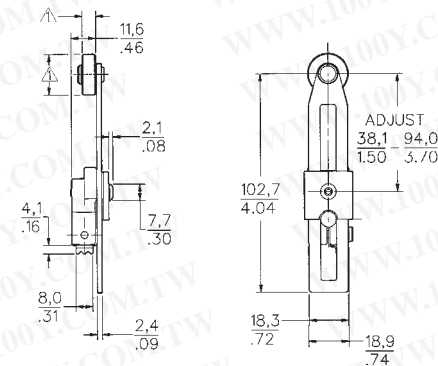
*SPDT 6 foot preleaded versions: add a **C** to the catalog listing. DPDT 6 foot preleaded versions: add **M** to the catalog listing. Example: LS2A4KC. For custom lead lengths, contact the 800 number.



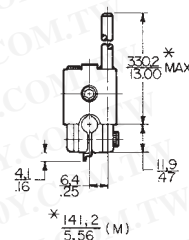
Front mounting

Back mounting

LS2Z52B



LS2Z54N



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

ORDER GUIDE STAINLESS STEEL LEVERS

| | Radius (In.) | Dia. (In.) | Width (In.) | Catalog Listing |
|-------------------|--------------|------------|-------------|-----------------|
| Std. Roller Lever | 1.5 | .75 | .25 | LS2Z51B |
| Adjustable Radius | 1.5-3.5 | .75 | .25 | LS2Z52B |
| Rod | 13.0 | — | — | LS2Z54N |

Stainless Steel

OPERATING CHARACTERISTICS

| | Head Type | | | | | |
|----------------------------|----------------------|------------|----------------------|-----------------------------|----------------------------------|----------------------------------|
| | Side Rotary Standard | | Low Torque | Side Plunger Plain | Roller | Top Roller Plunger |
| Pretravel (max.) | 15° | | — | 2,54 mm 1.00 in. | 2,54 mm 1.00 in. | 1,78 mm 0.70 in. |
| Differential Travel (max.) | SPDT 5° | DPDT 7° | SPDT 3° | DPDT 4° | 0,64 mm .025 in. | 0,64 mm .025 in. |
| Overtravel (min.) | 60° | | 68° | 4,83 mm .190 in. | 4,83 mm .190 in. | 4,83 mm .190 in. |
| Operating Force (max.) | — | | — | 26,7 Nm 6.0 lb. | 26,7 Nm 6.0 lb. | 17,8 Nm 4.0 lb. |
| Operating Torque (max.) | ,45 Nm 4 in.lb. | | ,19 Nm 1.7 in.lb. | — | — | — |
| Operating Point | — | | — | 33 ± 76 mm 1.3 ± .03 in. | 44,1 ± 1,02 mm 1.73 ± .04 in. | 55,9 ± 1,02 mm 2.20 ± .04 in. |

ELECTRICAL RATINGS

10 amps continuous carry

AC Volts

Pilot duty: 600 VAC, 720 VA

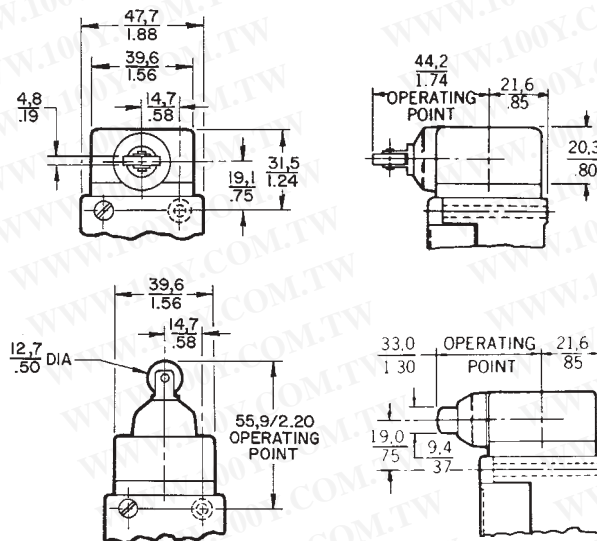
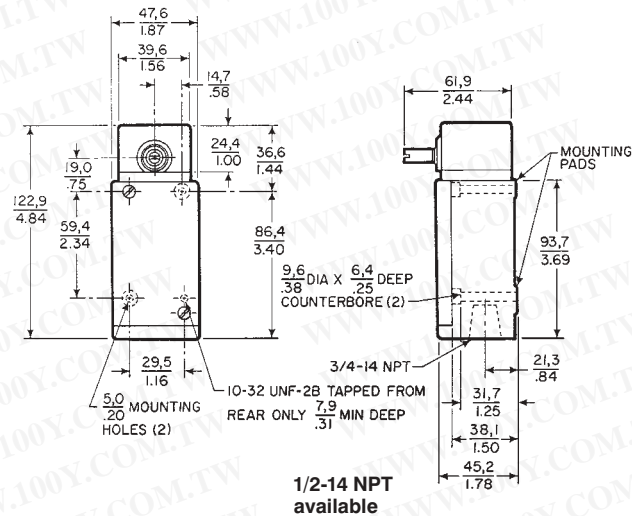
| Electrical Rating | Circuitry | VAC | Amps at 0.35 Power Factor | |
|-------------------|---|-----|---------------------------|-------|
| | | | Make | Break |
| A | Single-Pole Double-Throw | 120 | 60 | 6 |
| | | 240 | 30 | 3 |
| | | 480 | 15 | 1.5 |
| | | 600 | 12 | 1.2 |
| B | Double-Pole Double-Throw | 120 | 30 | 3 |
| | | 240 | 15 | 1.5 |
| | | 480 | 7.5 | 0.75 |
| | | 600 | 6 | 0.60 |
| D | Single-Pole Single-Throw Normally Closed | 120 | 60 | 6 |
| | | 240 | 30 | 3 |
| | | 480 | 15 | 1.5 |
| | | 600 | 12 | 1.2 |

DC Volts

Pilot duty: 240 VDC, 30 watts

| Electrical Rating | Circuitry | VDC | Make and Break Amps | |
|-------------------|---|-----|---------------------|-----------|
| | | | Inductive | Resistive |
| A | Single-Pole Double-Throw | 120 | 0.25 | 0.8 |
| | | 240 | 0.15 | 0.4 |
| B | Double-Pole Double-Throw | 120 | 0.25 | 0.8 |
| | | 240 | 0.15 | 0.4 |
| D | Single-Pole Single-Throw Normally Closed | 30 | 4.3 | 4.3 |
| | | 120 | 1.1 | 1.1 |

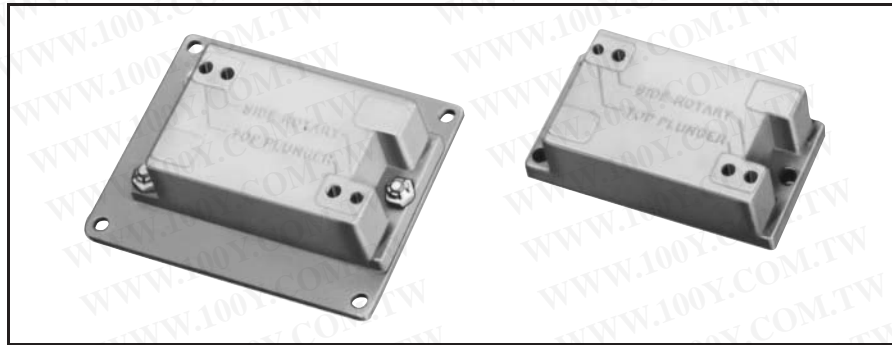
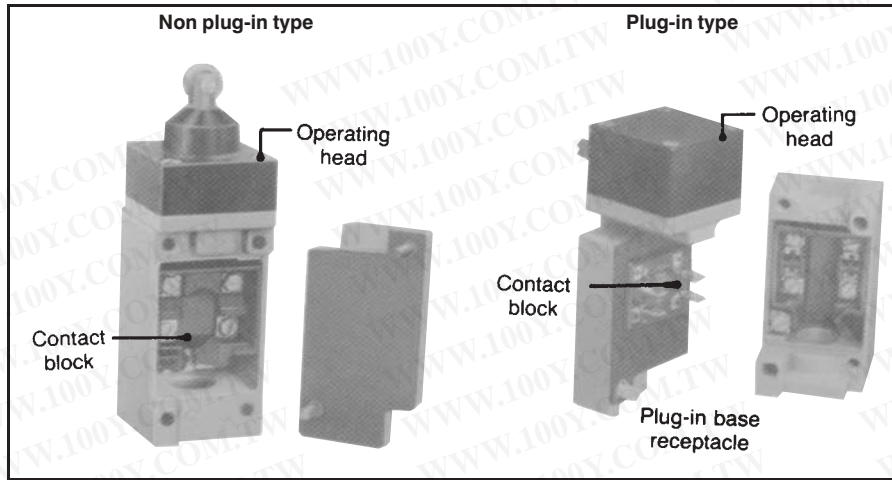
MOUNTING DIMENSIONS (For reference only)








Limit and Enclosed Switches

Modification and Replacement Parts

HDLS Series



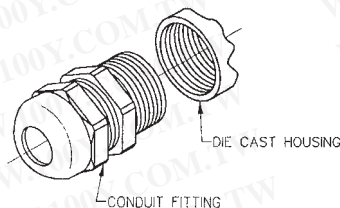
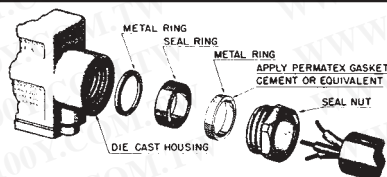
REPLACEMENT WOBBLE ACTUATORS

| Catalog Listing | | | | |
|---|---|---|---|---|
|  |  |  |  |  |
| Delrin Rod | Spring Wire | Cable | Cat Whisker | Coil Spring |
| LSZ4009 | LSZ4010 | LSZ4011 | LSZ4012* | LSZ4014 |

*5½ inch long. For 7½" length, order LSZ4013.

MICRO SWITCH conduit sealing packets can be used with limit or enclosed switches. This includes the HDLS, Compact LS, ML, E6, V6, BAF1 or OP series switches.

The conduit sealing packets are not suitable for use with explosion-proof switches.



PLUG IN RECEPTACLES

| Type | Catalog Listing |
|-------------------------------|-----------------|
| Single-Pole | LSZ4001 |
| Double-Pole ¾ in. Conduit | LSZ4002 |
| Double-Pole ½ in. Conduit | LSZ4006 |
| Single-Pole Manifold Mount | LSZ4015 |
| Double-Pole Manifold Mount | LSZ4016 |

ADAPTER PLATES

These adapter plates enable HDLS plug-in switches to retrofit 200LS series (single-pole) and 300LS series (double-pole) plug-in switches.

| Type | Catalog Listing |
|---|-----------------|
| Adapts 200LS series mounting to accept HDLS | LSZ4003 |
| Adapts 300LS series mounting to accept HDLS | LSZ4004 |

INDICATOR LIGHTS/SEAL RING

| Type | Catalog Listing |
|------|-----------------|
| 120V | LSZ4007 |
| 240V | LSZ4008 |

ADJUSTING TOOL KIT

This tool kit is used if readjustment of switches is necessary when heads and/or contact blocks are replaced.

| Catalog Listing |
|-----------------|
| LSZ4005 |

REPLACEMENT LEVERS

To order replacement levers, specify the same part number that is metal stamped on either the lever or lever hub.

For a complete list of HDLS replacement parts, refer to the charts on the following pages.

CONDUIT SEALING PACKETS

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

LIQUID TIGHT CONDUIT FITTING

| | |
|-------|---------------------|
| 2PA17 | .200" - .345" ½ NPT |
| 2PA18 | .270" - .460" ½ NPT |
| 2PA19 | .455" - .625" ¾ NPT |
| 2PA20 | .545" - .705" ¾ NPT |

Limit/Enclosed

Replacement Parts

For low temperature or high temperature options, refer to example in LSA1A block.

| PLUG-IN TYPE | 1 | 2 | 3 | 4 | 5 |
|---|---|---------------------------------------|----------------------------|--------------------------|------------------|
| Catalog Listing* On Switch Nameplate | Complete Plug-in Unit Less Base Receptacle | Plug-in Base Receptacle Only | Operating Head Only† | Contact Block Only | Actuator Only |
| Std. LSA1A Low Temp. LSYAB1A High Temp. LSYAC1A | LSZ7A1A LSZ7YAB1A LSZ7YAC1A | LSZ4001 LSZ4001 LSZ4001 | LSZ1A LSZ1AB LSZ1AC | LSZ3A LSZ3A LSZ3A | |
| LSA5A | LSZ7A5A | LSZ4001 | LSZ1A | LSZ3A | |
| LSA8A | LSZ7A8A | LSZ4001 | LSZ1A | LSZ3A | |
| LSA1J | LSZ7A1J | LSZ4001 | LSZ1A | LSZ3J | |
| LSA2B | LSZ7A2B | LSZ4002 | LSZ1A | LSZ3B | |
| LSA6B | LSZ7A6B | LSZ4006 | LSZ1A | LSZ3B | |
| LSB1A | LSZ7B1A | LSZ4001 | LSZ1B | LSZ3A | |
| LSB1J | LSZ7B1J | LSZ4001 | LSZ1B | LSZ3J | |
| LSB5A | LSZ7B5A | LSZ4001 | LSZ1B | LSZ3A | |
| LSB8A | LSZ7B8A | LSZ4001 | LSZ1B | LSZ3A | |
| LSB2B | LSZ7B2B | LSZ4002 | LSZ1B | LSZ3B | |
| LSB6B | LSZ7B6B | LSZ4006 | LSZ1B | LSZ3B | |
| LSC1A | LSZ7C1A | LSZ4001 | LSZ1C | LSZ3A | |
| LSC1J | LSZ7C3J | LSZ4001 | LSZ1C | LSZ3J | |
| LSC5A | LSZ7C5A | LSZ4001 | LSZ1C | LSZ3A | |
| LSC8A | LSZ7C8A | LSZ4001 | LSZ1C | LSZ3A | |
| LSC2B | LSZ7C2B | LSZ4002 | LSZ1C | LSZ3B | |
| LSC6B | LSZ7C6B | LSZ4006 | LSZ1C | LSZ3B | |
| LSD1A | LSZ7D1A | LSZ4001 | LSZ1D | LSZ3A | |
| LSD1J | LSZ7D1J | LSZ4001 | LSZ1D | LSZ3J | |
| LSD2B | LSZ7D2B | LSZ4002 | LSZ1D | LSZ3B | |
| LSD5A | LSZ7D5A | LSZ4001 | LSZ1D | LSZ3A | |
| LSD8A | LSZ7D8A | LSZ4001 | LSZ1D | LSZ3A | |
| LSD6B | LSZ7D6B | LSZ4006 | LSZ1D | LSZ3B | |
| LSE1A | LSZ7E1A | LSZ4001 | LSZ1E | LSZ3A | |

*Only partial listings are shown and necessary to determine replacement parts catalog listing. The listings with -7A, -7M, -7N, -8A, -8B and -8C are complete catalog listings.

Note: Complete units consist of Columns 1 and 2.

†For low temperature replacement heads add B. Example LSZ1AB. For fluorocarbon seal replacement heads add C. Example LSZ1AC.

Replacement Parts

PLUG-IN TYPE (Continued)

| | 1 | 2 | 3 | 4 | 5 |
|---|---|---------------------------------|----------------------|--------------------|---------------|
| Catalog Listing* On Switch Nameplate | Complete Plug-in Unit Less Base Receptacle | Plug-in Base Receptacle Only | Operating Head Only† | Contact Block Only | Actuator Only |
| LSE1J | LSZ7E1J | LSZ4001 | LSZ1E | LSZ3J | |
| LSE2B | LSZ7E2B | LSZ4002 | LSZ1E | LSZ3B | |
| LSE5A | LSZ7E5A | LSZ4001 | LSZ1E | LSZ3A | |
| LSE8A | LSZ7E8A | LSZ4001 | LSZ1E | LSZ3A | |
| LSE6B | LSZ7E6B | LSZ4006 | LSZ1E | LSZ3B | |
| LSF1A | LSZ7F1A | LSZ4001 | LSZ1F | LSZ3A | |
| LSF1J | LSZ7F1J | LSZ4001 | LSZ1F | LSZ3J | |
| LSF2B | LSZ7F2B | LSZ4002 | LSZ1F | LSZ3B | |
| LSF5A | LSZ7F5A | LSZ4001 | LSZ1F | LSZ3A | |
| LSF8A | LSZ7F8A | LSZ4001 | LSZ1F | LSZ3A | |
| LSF6B | LSZ7F6B | LSZ4006 | LSZ1F | LSZ3B | |
| LSG1A | LSZ7G1A | LSZ4001 | LSZ1G | | |
| | | | | | |
| LSG5A | LSZ7G5A | LSZ4001 | LSZ1G | | |
| LSG8A | LSZ7G8A | LSZ4001 | LSZ1G | | |
| LSG2B | LSZ7G2B | LSZ4002 | LSZ1G | | |
| LSG6B | LSZ7G6B | LSZ4006 | LSZ1G | | |
| LSH1A | LSZ7H1A | LSZ4001 | LSZ1H | LSZ3A | |
| | | | | | |
| LSH2B | LSZ7H2B | LSZ4002 | LSZ1H | LSZ3B | |
| LSH6B | LSZ7H6B | LSZ4006 | LSZ1H | LSZ3B | |
| LSH5A | LSZ7H5A | LSZ4001 | LSZ1H | LSZ3A | |
| LSH8A | LSZ7H8A | LSZ4001 | LSZ1H | LSZ3A | |
| LSJ1A-7A | LSZ7J1A-7A | LSZ4001 | LSZ1JGA** | LSZ3A | LSZ4009 |
| LSJ1A-7M | LSZ7J1A-7M | LSZ4001 | LSZ1JGM** | LSZ3A | LSZ4010 |

Limit/Enclosed

*Only partial listings are shown and necessary to determine replacement parts catalog listing. The listings with -7A, -7M, -7N, -8A, -8B and -8C are complete catalog listings.

**Includes actuator

Note: Complete units consist of Columns 1 and 2.

† For low temperature replacement heads add B. Example LSZ1AB. For fluorocarbon seal replacement heads add C. Example LSZ1AC.

Replacement Parts

PLUG-IN TYPE (Continued)

| | 1 | 2 | 3 | 4 | 5 |
|---|---|---------------------------------|------------------------------|--------------------|---------------|
| Catalog Listing* On Switch Nameplate | Complete Plug-in Unit Less Base Receptacle | Plug-in Base Receptacle Only | Operating Head and Actuator† | Contact Block Only | Actuator Only |
| LSJ5A-7M | LSZ7J5A-7M | LSZ4001 | LSZ1JGM | LSZ3A | LSZ4010 |
| LSJ8A-7M | LSZ7J8A-7M | LSZ4001 | LSZ1JGM | LSZ3A | LSZ4010 |
| LSJ2B-7A | LSZ7J2B-7A | LSZ4002 | LSZ1JGM | LSZ3B | LSZ4009 |
| LSJ2B-7M | LSZ7J2B-7M | LSZ4002 | LSZ1JGM | LSZ3B | LSZ4010 |
| LSJ6B-7M | LSZ7J6B-7M | LSZ4006 | LSZ1JGM | LSZ3B | LSZ4010 |
| LSJ5A-7A | LSZ7J5A-7A | LSZ4001 | LSZ1JGA | LSZ3A | LSZ4009 |
| LSJ8A-7A | LSZ7J8A-7A | LSZ4001 | LSZ1JGA | LSZ3A | LSZ4009 |
| LSJ6B-7A | LSZ7J6B-7A | LSZ4006 | LSZ1JGA | LSZ3B | LSZ4009 |
| LSJ1A-7N | LSZ7J1A-7N | LSZ4001 | LSZ1JGN | LSZ3A | LSZ4011 |
| LSJ1J-7N | LSZ7J1J-7N | LSZ4001 | LSZ1JGN | LSZ3J | LSZ4011 |
| LSJ5A-7N | LSZ7J5A-7N | LSZ4001 | LSZ1JGN | LSZ3A | LSZ4011 |
| LSJ8A-7N | LSZ7J8A-7N | LSZ4001 | LSZ1JGN | LSZ3A | LSZ4011 |
| LSJ2B-7N | LSZ7J2B-7N | LSZ4002 | LSZ1JGN | LSZ3B | LSZ4011 |
| LSJ6B-7N | LSZ7J6B-7N | LSZ4006 | LSZ1JGN | LSZ3B | LSZ4011 |
| LSK1A-8A | LSZ7K1A-8A | LSZ4001 | LSZ1KHA | LSZ3A | LSZ4012 |
| LSK1J-8A | LSZ7K1J-8A | LSZ4001 | LSZ1KHA | LSZ3J | LSZ4012 |
| LSK2B-8A | LSZ7K2B-8A | LSZ4002 | LSZ1KHA | LSZ3B | LSZ4012 |
| LSK5A-8A | LSZ7K5A-8A | LSZ4001 | LSZ1KHA | LSZ3A | LSZ4012 |
| LSK8A-8A | LSZ7K8A-8A | LSZ4001 | LSZ1KHA | LSZ3A | LSZ4012 |
| LSK6B-8A | LSZ7K6B-8A | LSZ4006 | LSZ1KHA | LSZ3B | LSZ4012 |
| LSK1A-8C | LSZ7K1A-8C | LSZ4001 | LSZ1KHC | LSZ3A | LSZ4014 |
| LSK1A-8B | LSZ7K1A-8B | LSZ4001 | LSZ1KHB | LSZ3A | LSZ4013 |
| LSK5A-8C | LSZ7K5A-8C | LSZ4001 | LSZ1KHC | LSZ3A | LSZ4014 |
| LSK8A-8C | LSZ7K8A-8C | LSZ4001 | LSZ1KHC | LSZ3A | LSZ4014 |
| LSK2B-8C | LSZ7K2B-8C | LSZ4002 | LSZ1KHC | LSZ3B | LSZ4014 |
| LSK6B-8C | LSZ7K6B-8C | LSZ4006 | LSZ1KHC | LSZ3B | LSZ4014 |

*Only partial listings are shown and necessary to determine replacement parts catalog listing. The listings with -7A, -7M, -7N, -8A, -8B and -8C are complete catalog listings.

Note: Complete units consist of Columns 1 and 2.

† For low temperature replacement head and actuators add **B** between the fifth and sixth characters. Example: LSZ1KBHA. For fluorocarbon seals add **C**. Example LSZ1KCHA.

Replacement Parts

PLUG-IN TYPE (Continued)

| | 1 | 2 | 3 | 4 | 5 |
|--|---|---------------------------------------|----------------------------|--------------------------|------------------|
| Catalog Listing* On Switch Nameplate | Complete Plug-in Unit Less Base Receptacle | Plug-in Base Receptacle Only | Operating Head Only† | Contact Block Only | Actuator Only |
| LSL2C | LSZ7L2C | LSZ4002 | LSZ1L | LSZ3C | |
| LSL6C | LSZ7L6C | LSZ4006 | LSZ1L | LSZ3C | |
| LSM2D | LSZ7M2D | LSZ4002 | LSZ1M | LSZ3C | |
| LSM6D | LSZ7M6D | LSZ4006 | LSZ1M | LSZ3C | |
| LSN1A | LSZ7N1A | LSZ4001 | LSZ1N | | |
| LSN2B | LSZ7N2B | LSZ4002 | LSZ1N | | |
| | | | | | |
| LSN5A | LSZ7N5A | LSZ4001 | LSZ1N | | |
| LSN8A | LSZ7N8A | LSZ4001 | LSZ1N | | |
| LSN6B | LSZ7N6B | LSZ4006 | LSZ1N | | |
| LSP1A | LSZ7P1A | LSZ4001 | LSZ1P | LSZ3A | |
| LSP1J | LSZ7P1J | LSZ4001 | LSZ1P | LSZ3J | |
| LSP2B | LSZ7P2B | LSZ4002 | LSZ1P | LSZ3B | |
| LSP5A | LSZ7P5A | LSZ4001 | LSZ1P | LSZ3A | |
| LSP8A | LSZ7P8A | LSZ4001 | LSZ1P | LSZ3A | |
| LSP6B | LSZ7P6B | LSZ4006 | LSZ1P | LSZ3B | |
| LSR1A | LSZ7R1A | LSZ4001 | LSZ1R | LSZ3A | |
| | | | | | |
| LSR2B | LSZ7R2B | LSZ4002 | LSZ1R | LSZ3B | |
| LSR6B | LSZ7R6B | LSZ4006 | LSZ1R | LSZ3B | |
| LSR5A | LSZ7R5A | LSZ4001 | LSZ1R | LSZ3A | |

Limit/Enclosed

*Only partial listings are shown and necessary to determine replacement parts catalog listing. The listings with -7A, -7M, -7N, -8A, -8B and -8C are complete catalog listings.

Note: Complete units consist of Columns 1 and 2.

† For low temperature replacement heads add B. Example LSZ1AB. For fluorocarbon seal replacement heads add C. Example LSZ1AC.

Replacement Parts

PLUG-IN TYPE (Continued)

| | 1 | 2 | 3 | 4 | 5 |
|---|---|---------------------------------|-------------------------|-----------------------|------------------|
| Catalog Listing* On Switch Nameplate | Complete Plug-in Unit Less Base Receptacle | Plug-in Base Receptacle Only | Operating Head Only† | Contact Block Only | Actuator Only |
| LSR8A | LSZ7R8A | LSZ4001 | LSZ1R | LSZ3A | |
| LSS1H | LSZ7S1H | LSZ4001 | LSZ1S | LSZ3H | |
| LSU1A | LSZ7U1A | LSZ4001 | LSZ1U | LSZ3A | |
| LST1H | LSZ7T1H | LSZ4001 | LSZ1T | LSZ3H | |
| LSU5A | LSZ7U5A | LSZ4001 | LSZ1U | LSZ3A | |
| LSV1A | LSZ7V1A | LSZ4001 | LSZ1V | LSZ3A | |
| LSV1J | LSZ7V1J | LSZ4001 | LSZ1V | LSZ3J | |
| LSV5A | LSZ7V5A | LSZ4001 | LSZ1V | LSZ3A | |
| LSV8A | LSZ7V8A | LSZ4001 | LSZ1V | LSZ3A | |
| LSV2B | LSZ7V2B | LSZ4002 | LSZ1V | LSZ3B | |
| LSV6B | LSZ7V6B | LSZ4006 | LSZ1V | LSZ3B | |
| LSW1A | LSZ7W1A | LSZ4001 | LSZ1W | LSZ3A | |
| LSW1J | LSZ7W1J | LSZ4001 | LSZ1W | LSZ3J | |
| LSW5A | LSZ7W5A | LSZ4001 | LSZ1W | LSZ3A | |
| LSW8A | LSZ7W8A | LSZ4001 | LSZ1W | LSZ3A | |
| LSW2B | LSZ7W2B | LSZ4002 | LSZ1W | LSZ3B | |
| LSW6B | LSZ7W6B | LSZ4006 | LSZ1W | LSZ3B | |

NON PLUG-IN TYPE (These parts will not form a complete switch)

| Catalog Listing* On Switch Nameplate | Operating Head Only† | Contact Block Only | Actuator Only |
|---|-------------------------|-----------------------|------------------|
| LSA3K | LSZ1A | LSZ3K | |
| LSA4L | LSZ1A | LSZ3L | |
| LSA7L | LSZ1A | LSZ3L | |
| LSB3K | LSZ1B | LSZ3K | |
| LSB4L | LSZ1B | LSZ3L | |
| LSB7L | LSZ1B | LSZ3L | |
| LSC3K | LSZ1C | LSZ3K | |
| LSC4L | LSZ1C | LSZ3L | |

| Catalog Listing* On Switch Nameplate | Operating Head and Actuator‡ | Contact Block Only | Actuator Only |
|---|---------------------------------|-----------------------|------------------|
| LSJ7L-7A | LSZ1JGA | LSZ3L | LSZ4009 |
| LSJ7L-7M | LSZ1JGM | LSZ3L | LSZ4010 |
| LSJ4L-7N | LSZ1JGN | LSZ3L | LSZ4011 |
| LSJ7L-7N | LSZ1JGN | LSZ3L | LSZ4011 |
| LSK3K-8A | LSZ1KHA | LSZ3K | LSZ4012 |
| LSK4L-8A | LSZ1KHA | LSZ3L | LSZ4012 |
| LSK7L-8A | LSZ1KHA | LSZ3L | LSZ4012 |
| LSK3K-8C | LSZ1KHC | LSZ3K | LSZ4014 |

*Only partial listings are shown and necessary to determine replacement parts catalog listing. The listings with -7A, -7M, -7N, -8A, -8B and -8C are complete catalog listings.

Note: Complete units consist of Columns 1 and 2.

‡ For low temperature replacement head and actuators add **B** between the fifth and sixth characters. Example LSZ1KBHA. For fluorocarbon seals add **C**. Example LSZ1KCHA.

Replacement Parts

NON PLUG-IN TYPE

| Catalog Listing* On Switch Nameplate | Operating Head Only† | Contact Block Only | Actuator Only |
|---|----------------------|--------------------|---------------|
| LSC7L | LSZ1C | LSZ3L | |
| LSD3K | LSZ1D | LSZ3K | |
| LSD4L | LSZ1D | LSZ3L | |
| LSD7L | LSZ1D | LSZ3L | |
| LSE3K | LSZ1E | LSZ3K | |
| LSE4L | LSZ1E | LSZ3L | |
| LSE7L | LSZ1E | LSZ3L | |
| LSF3K | LSZ1F | LSZ3K | |
| LSF4L | LSZ1F | LSZ3L | |
| LSF7L | LSZ1F | LSZ3L | |
| LSG3K | LSZ1G | | |
| LSG4L | LSZ1G | | |
| LSG7L | LSZ1G | | |
| LSH3K | LSZ1H | LSZ3K | |
| LSH4L | LSZ1H | LSZ3L | |
| LSH7L | LSZ1H | LSZ3L | |

| Catalog Listing* On Switch Nameplate | Operating Head and Actuator‡ | Contact Block Only | Actuator Only |
|---|------------------------------|--------------------|---------------|
| LSJ3K-7A | LSZ1JGA | LSZ3K | LSZ4009 |
| LSJ3K-7M | LSZ1JGM | LSZ3K | LSZ4010 |
| LSJ3K-7N | LSZ1JGN | LSZ3K | LSZ4011 |
| LSJ4L-7A | LSZ1JGA | LSZ3L | LSZ4009 |
| LSJ4L-7M | LSZ1JGM | LSZ3L | LSZ4010 |
| LSK4L-8C | LSZ1KHC | LSZ3L | LSZ4014 |
| LSK7L-8C | LSZ1KHC | LSZ3L | LSZ4014 |

‡ For low temperature replacement head and actuators add **B** between the fifth and sixth characters. Example: LSZ1KBHA. For fluorocarbon seals add **C**. Example LSZ1KCHA.

| Catalog Listing* On Switch Nameplate | Operating Head Only† | Contact Block Only | Actuator Only |
|---|----------------------|--------------------|---------------|
| LSL4M | LSZ1L | LSZ3M | |
| LSL7M | LSZ1L | LSZ3M | |
| LSM4N | LSZ1M | LSZ3M | |
| LSM7N | LSZ1M | LSZ3M | |
| LSN3K | LSZ1N | | |
| LSN4L | LSZ1N | | |
| LSN7L | LSZ1N | | |
| LSP3K | LSZ1P | LSZ3K | |
| LSP4L | LSZ1P | LSZ3L | |
| LSP7L | LSZ1P | LSZ3L | |
| LSR3K | LSZ1R | LSZ3K | |
| LSR4L | LSZ1R | LSZ3L | |
| LSR7L | LSZ1R | LSZ3L | |
| LSV3K | LSZ1V | LSZ3K | |
| LSV4L | LSZ1V | LSZ3L | |
| LSV7L | LSZ1V | LSZ3L | |
| LSW3K | LSZ1W | LSZ3K | |
| LSW4L | LSZ1W | LSZ3L | |
| LSW7L | LSZ1W | LSZ3L | |

Limit/Enclosed

REPLACEMENT PARTS FOR STAINLESS STEEL HDLS

| Listing | Operating Head | Contact Block |
|---------|----------------|---------------|
| LS2A3N | LS2Z1A | N/A |
| LS2A4K | LS2Z1A | LSZ3K |
| LS2A4L | LS2Z1A | LSZ3L |
| LS2D4K | LS2Z1D | LSZ3K |
| LS2D4L | LS2Z1D | LSZ3L |
| LS2E4K | LS2Z1E | LSZ3K |
| LS2E4L | LS2Z1E | LSZ3L |
| LS2F4K | LS2Z1F | LSZ3K |
| LS2F4L | LS2Z1F | LSZ3L |
| LS2H3K | LS2Z1H | LSZ3K |
| LS2H4K | LS2Z1H | LSZ3K |
| LS2H4L | LS2Z1H | LSZ3L |
| LS2M4N | LS2Z1M | LSZ3M |
| LS2N3K | LS2Z1N | LSZ3K |

*Only partial listings are shown and necessary to determine replacement parts catalog listing. The listings with -7A, -7M, -7N, -8A, -8B and -8C are complete catalog listings.

† For low temperature replacement heads add **B**. Example LSZ1AB. For fluorocarbon seal replacement heads add **C**. Example LSZ1AC.

Limit and Enclosed Switches

HDLS Series

Temperature and Performance Data

TABLE 1—TEMPERATURE LIMITS

| | Standard HDLS | | | | Low Temperature HDLS | | | | High Temperature HDLS (Fluorocarbon Sealed*) | | |
|---------------------------------------|---------------|--------------|---------------|----------------|----------------------|----------------|---------------|----------------|--|--------------|----------------|
| | Low Limit | | High Limit | | Low Limit | | High Limit | | Low Limit | | High Limit |
| | 10°F -12°C | 30°F -1°C | 200°F 93°C | 250°F 121°C | -40°F -40°C | -20°F -29°C | 200°F 93°C | 250°F 121°C | 10°F -12°C | 30°F -1°C | 250°F 121°C |
| LSA—Side Rotary Momentary | X | | | X | X | | | X | X | | X |
| LSB—Top Rotary | | X | | X | | X | | X | | X | X |
| LSC—Top Plain Plunger | X | | X | | | X | X | | X | | X |
| LSD—Top Roller Plunger | X | | X | | | X | X | | X | | X |
| LSE—Side Plain Plunger | X | | X | | | X | X | | X | | X |
| LSF—Side Roller Plunger | X | | X | | | X | X | | X | | X |
| LSG—Side Plunger Maintained | | X | X | | | X | X | | | X | X |
| LSH—Side Rotary, Low P.T., Low Torque | | X | | X | | X | | X | | X | X |
| LSJ—Wobble Stick | X | | X | | X | | | X | X | | X |
| LSK—Cat Whisker | X | | X | | | X | | X | X | | X |
| LSL—Side Rotary Sequence | X | | | X | X | | | X | X | | X |
| LSM—Side Rotary Center Neutral | | X | | X | X | | | X | | X | X |
| LSN—Side Rotary Maintained | | X | | X | | X | | X | | X | X |
| LSP—Side Rotary, Low Pretravel | X | | | X | X | | | X | X | | X |
| LSR—Side Rotary, Low Torque | | X | | X | | X | | X | | X | X |
| LSV—Top Adjustable Plunger | X | | X | | | X | X | | X | | X |
| LSW—Side Adjustable Plunger | X | | X | | | X | X | | X | | X |

*For HDLS application wherein the upper temperature limit is normally above 200°F (93°C), completely fluorocarbon-sealed switches rather than the standard HDLS. much longer switch life can be obtained by using

TABLE 2—ENVIRONMENTAL SEAL PERFORMANCE

| Std. Seals | Cellulube | Detergent | 5 Star | ASTM #1 | ASTM #2 | ASTM #3 | ASTM #4 | Houghto Safe 260, 271 | Houghto Safe 1010, 1055, 1120 | Mineral Oil | Petr. Oil Crude | Silicon Gr. & Oil | Sunsafe | Beer | Stoddard Solv. | Chlorinated Solvents | Citric Acids | Di-ester Syn. Lubricant | Ozone | Pydraul | Pyroguard | Petr. Base Hydraulic Oil | Lard Oil | Silicate Esters |
|------------|-----------|-----------|--------|---------|---------|---------|---------|-----------------------|-------------------------------|-------------|-----------------|-------------------|---------|------|----------------|----------------------|--------------|-------------------------|-------|---------|-----------|--------------------------|----------|-----------------|
| LSA | 4 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 4 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 1 | 2 | 4 | 4 | 4 | 1 | 1 | 2 |
| LSB | 4 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 4 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 1 | 2 | 4 | 4 | 4 | 1 | 1 | 2 |
| LSC | 4 | 2 | 2 | 1 | 2 | 4 | 4 | 2 | 4 | 2 | 2 | 1 | 2 | 1 | 2 | 4 | 1 | 4 | 3 | 4 | 4 | 2 | 2 | 2 |
| LSD | 4 | 2 | 2 | 1 | 2 | 4 | 4 | 2 | 4 | 2 | 2 | 1 | 2 | 1 | 2 | 4 | 1 | 4 | 3 | 4 | 4 | 2 | 2 | 2 |
| LSE | 4 | 2 | 2 | 1 | 2 | 4 | 4 | 2 | 4 | 2 | 2 | 1 | 2 | 1 | 2 | 4 | 1 | 4 | 3 | 4 | 4 | 2 | 2 | 2 |
| LSF | 4 | 2 | 2 | 1 | 2 | 4 | 4 | 2 | 4 | 2 | 2 | 1 | 2 | 1 | 2 | 4 | 1 | 4 | 3 | 4 | 4 | 2 | 2 | 2 |
| LSG | 4 | 2 | 2 | 1 | 2 | 4 | 4 | 2 | 4 | 2 | 2 | 1 | 2 | 1 | 2 | 4 | 1 | 4 | 3 | 4 | 4 | 2 | 2 | 2 |
| LSH | 4 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 4 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 1 | 2 | 4 | 4 | 4 | 1 | 1 | 2 |
| LSJ | 4 | 2 | 2 | 1 | 2 | 4 | 4 | 2 | 4 | 2 | 2 | 1 | 2 | 1 | 2 | 4 | 1 | 4 | 3 | 4 | 4 | 2 | 2 | 2 |
| LSK | 4 | 2 | 2 | 1 | 2 | 4 | 4 | 2 | 4 | 2 | 2 | 1 | 2 | 1 | 2 | 4 | 1 | 4 | 3 | 4 | 4 | 2 | 2 | 2 |
| LSL | 4 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 4 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 1 | 2 | 4 | 4 | 4 | 1 | 1 | 2 |
| LSM | 4 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 4 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 1 | 2 | 4 | 4 | 4 | 1 | 1 | 2 |
| LSN | 4 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 4 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 1 | 2 | 4 | 4 | 4 | 1 | 1 | 2 |
| LSP | 4 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 4 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 1 | 2 | 4 | 4 | 4 | 1 | 1 | 2 |
| LSR | 4 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 4 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 1 | 2 | 4 | 4 | 4 | 1 | 1 | 2 |
| LSV | 4 | 2 | 2 | 1 | 2 | 4 | 4 | 2 | 4 | 2 | 2 | 1 | 2 | 1 | 2 | 4 | 1 | 4 | 3 | 4 | 4 | 2 | 2 | 2 |
| LSW | 4 | 2 | 2 | 1 | 2 | 4 | 4 | 2 | 4 | 2 | 2 | 1 | 2 | 1 | 2 | 4 | 1 | 4 | 3 | 4 | 4 | 2 | 2 | 2 |

All HDLS with seals of:

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------------|----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Fluorisilicone (Low Temp. HDLS) | 4 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 4 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 4 | 4 | 1 | 1 | 1 |
| Fluorocarbon (High Temp. HDLS) | 1* | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |

*Fluorocarbon seals good for all Cellulubes Except A60.CODE:

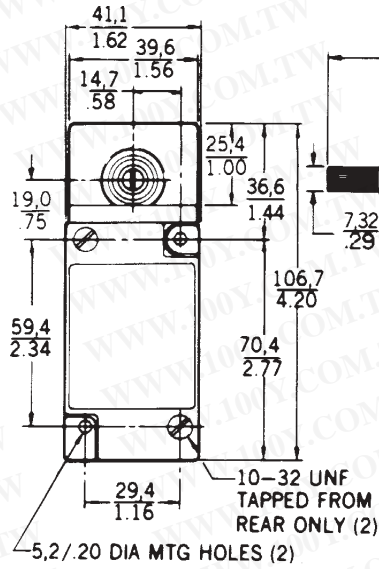
1 = Satisfactory
2 = Fair
3 = Doubtful
4 = Unsatisfactory

Limit and Enclosed Switches

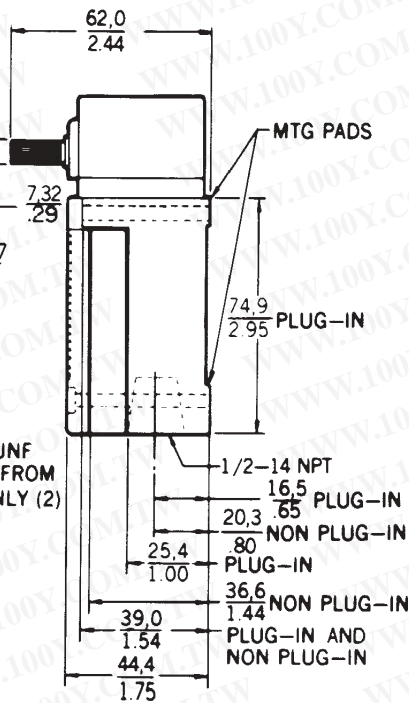
Mounting Dimensions (For reference only)

HDLS Series

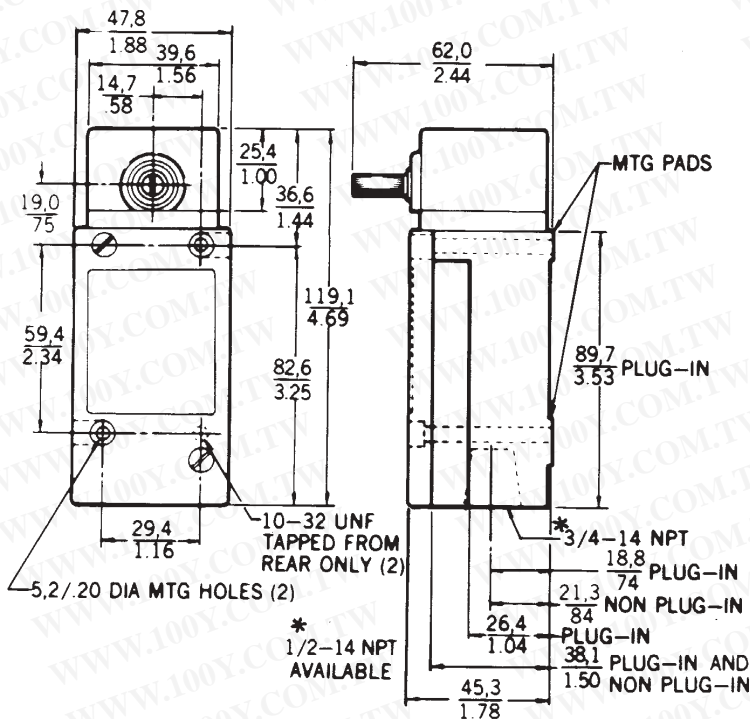
SIDE ROTARY



Single-pole



Double-pole



Limit/Enclosed

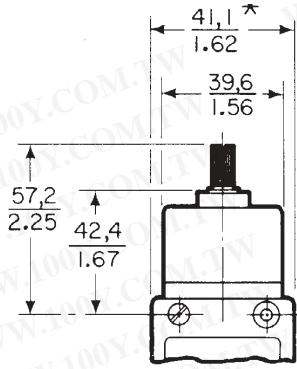
Courtesy of Steven Engineering, Inc. • 230 Ryan Way, South San Francisco, CA 94080-6370 • Main Office: (650) 588-9200 • Outside Local Area: (800) 258-9200 • www.stevenengineering.com

Limit and Enclosed Switches

Mounting Dimensions (For reference only)

HDLS Series

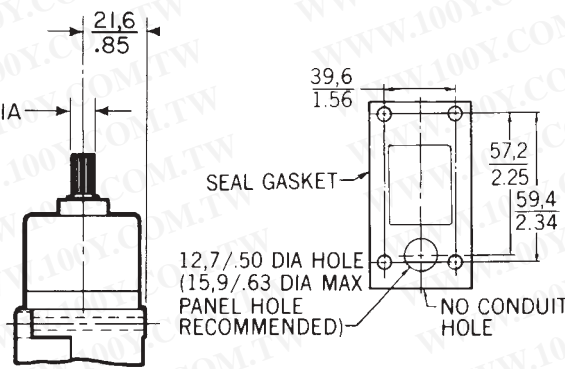
TOP ROTARY Single-pole



Single-Pole
* 47.5
1.87

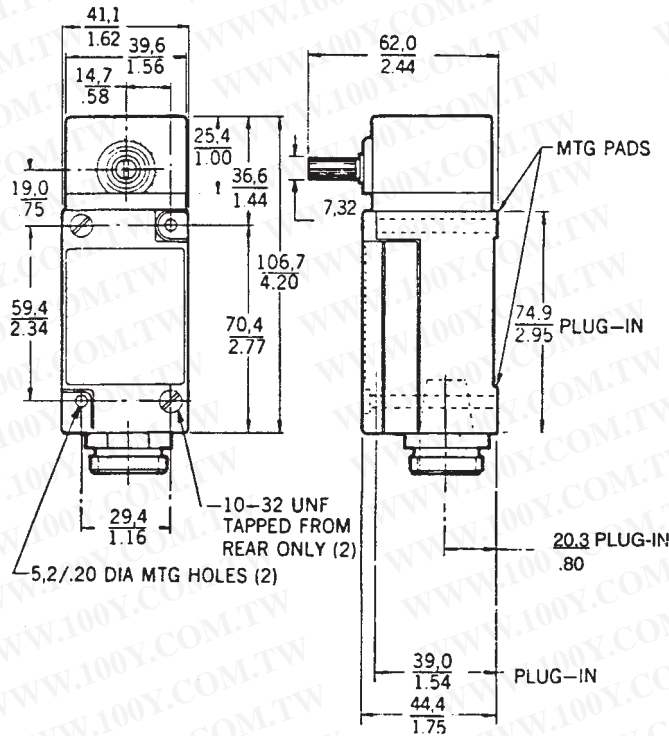
Double-Pole Dimension

MANIFOLD MOUNT (Plug-in only) Single-pole and double-pole



NEMA 6P PRE-WIRED SIDE ROTARY

Single-pole

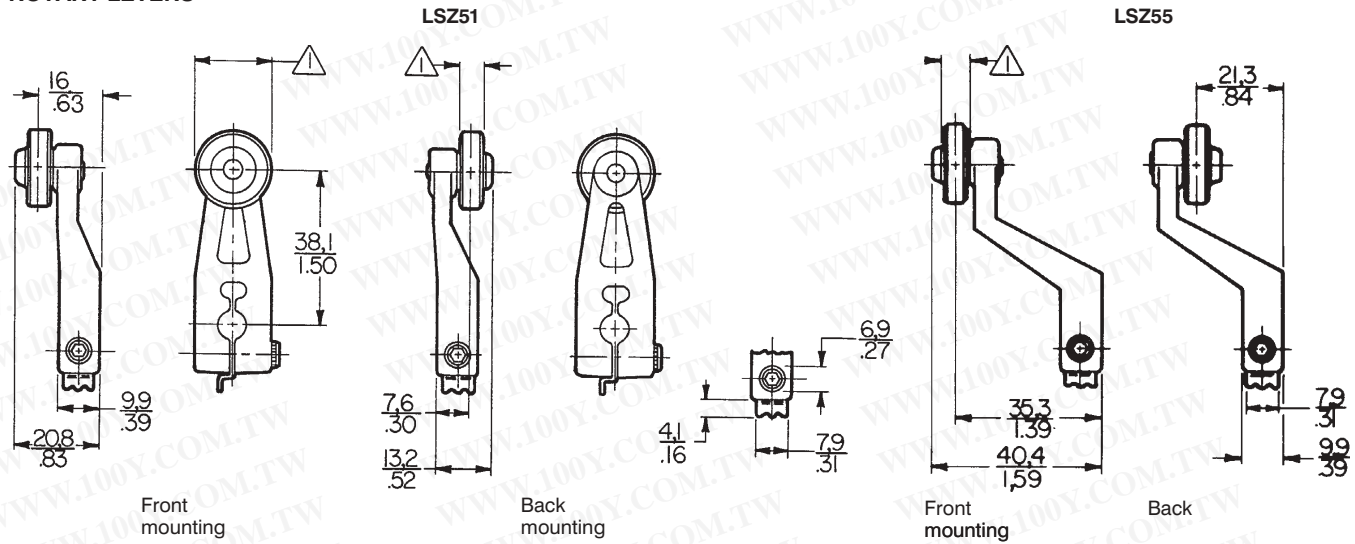


Limit and Enclosed Switches

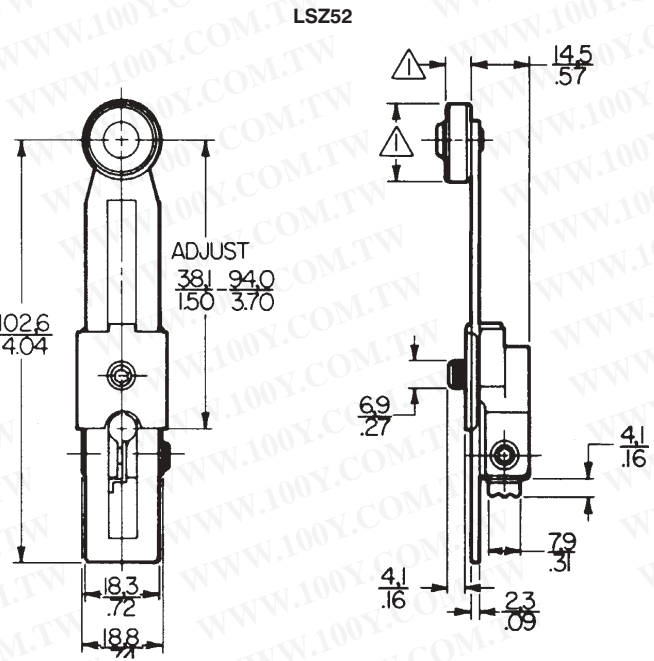
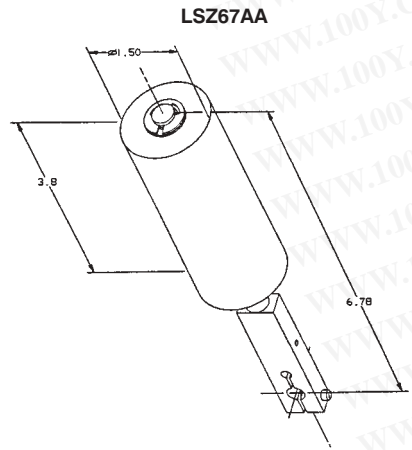
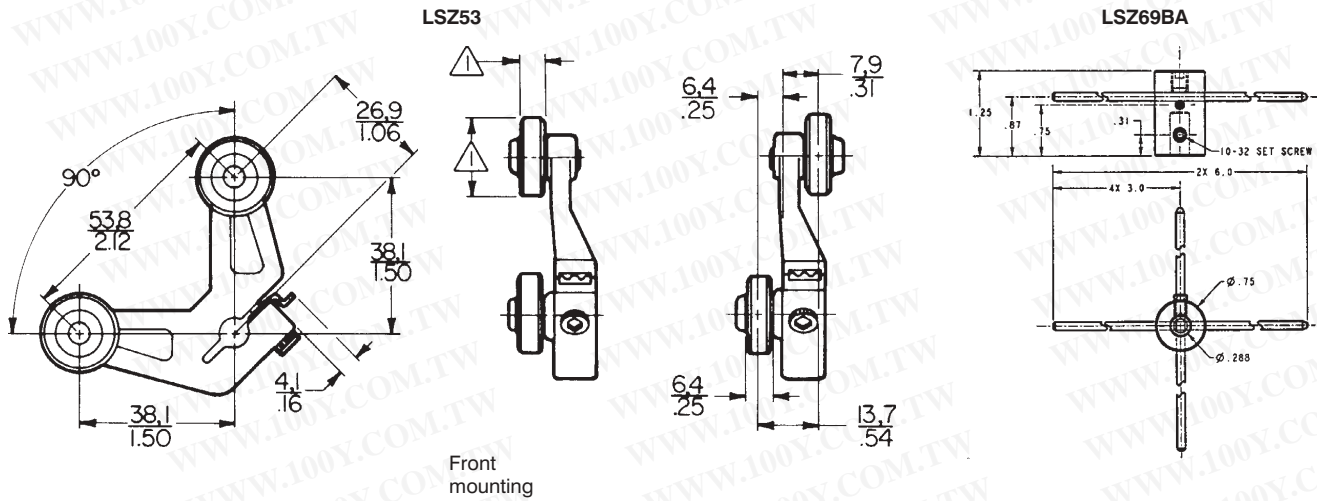
HDLS Series

Mounting Dimensions (For reference only)

ROTARY LEVERS



Limit/Enclosed



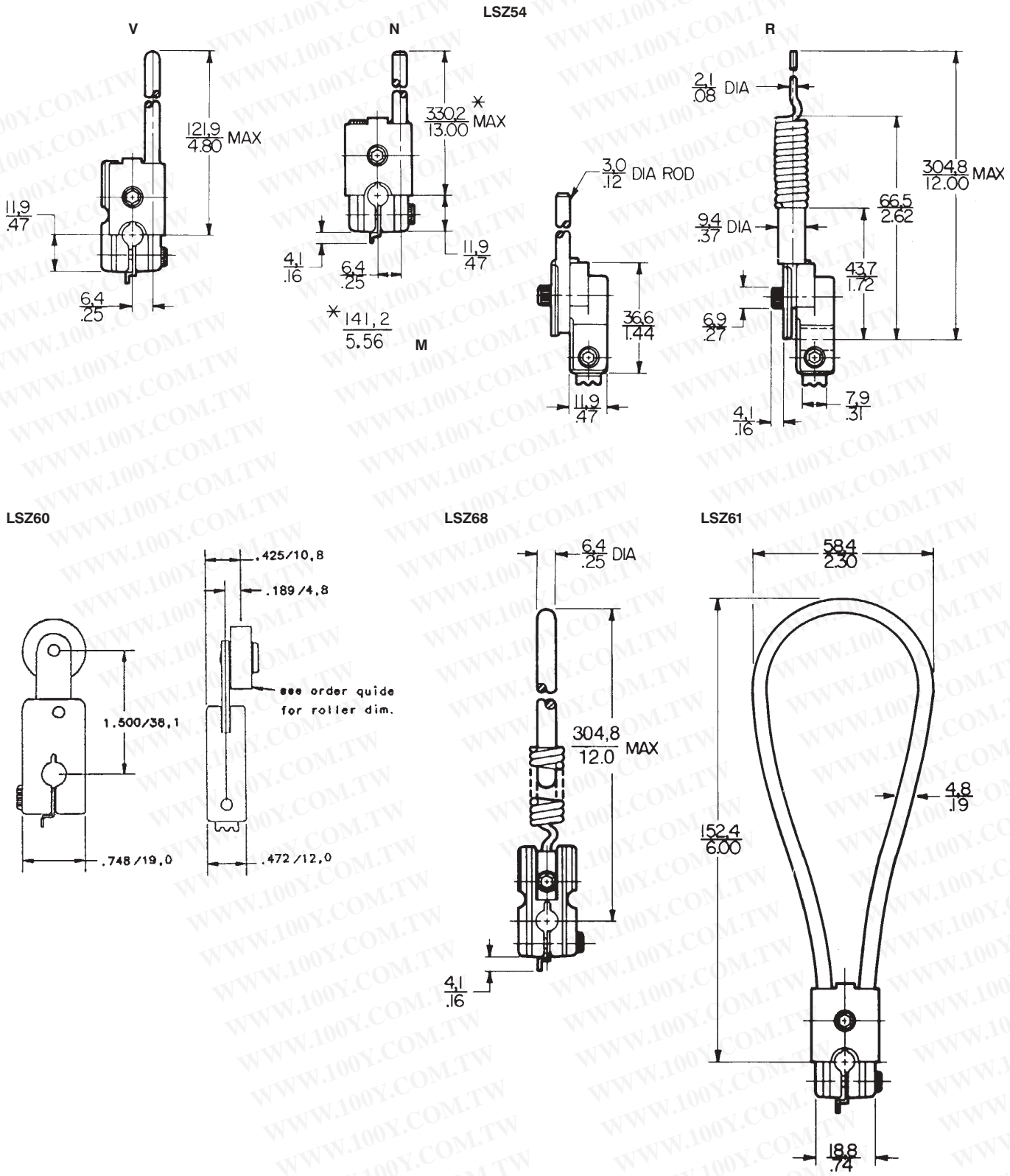
⚠ See order guides for roller dimensions.

Limit and Enclosed Switches

HDLS Series

Mounting Dimensions (For reference only)

ROTARY LEVERS



Courtesy of Steven Engineering, Inc. • 230 Ryan Way, South San Francisco, CA 94080-6370 • Main Office: (650) 588-9200 • Outside Local Area: (800) 258-9200 • www.stevenengineering.com

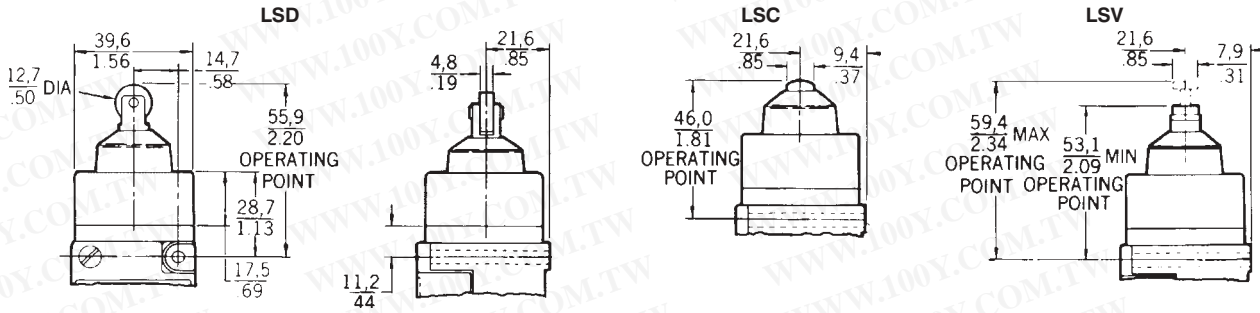
Limit and Enclosed Switches

HDLS Series

Mounting Dimensions (For reference only)

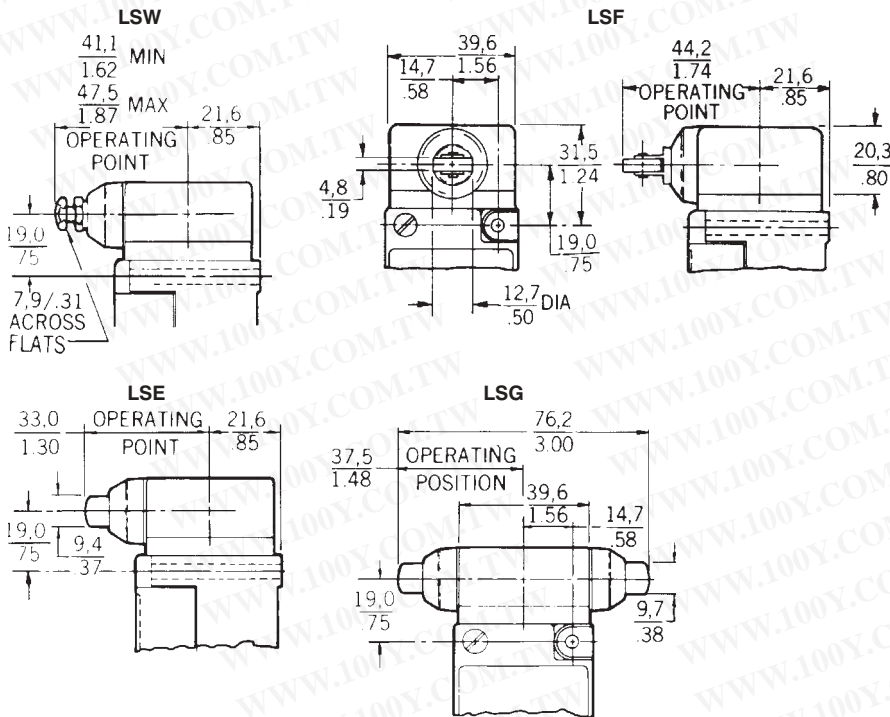
TOP PLUNGERS

Single-pole and double-pole



SIDE PLUNGERS

Single-pole and double-pole



Key: 0.0 = mm
0.00 = inches

Limit/Enclosed

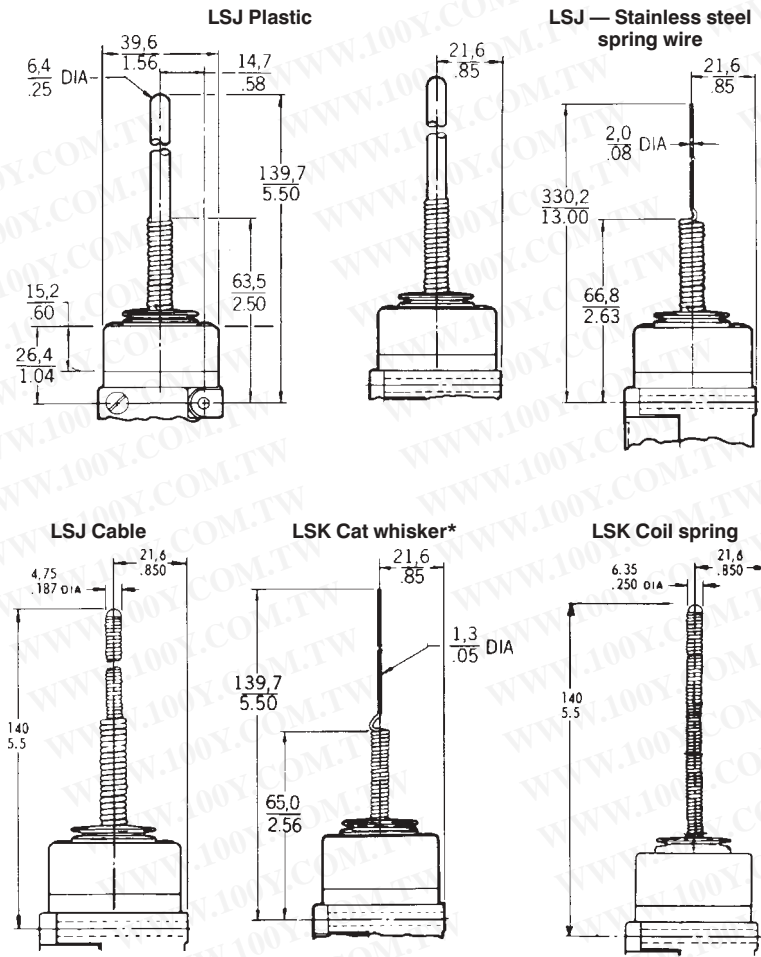
Courtesy of Steven Engineering, Inc. • 230 Ryan Way, South San Francisco, CA 94080-6370 • Main Office: (650) 588-9200 • Outside Local Area: (800) 258-9200 • www.stevenengineering.com

Limit and Enclosed Switches

Mounting Dimensions (For reference only)

HDLS Series

WOBBLE LEVERS



* Also available with 7½" actuator.

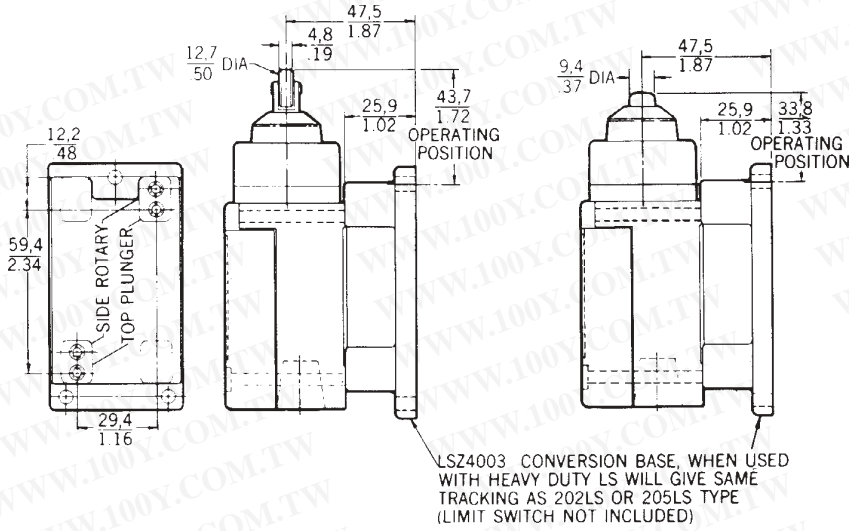
Key: 0,0 = mm
0.00 = inches

Courtesy of Steven Engineering, Inc. • 230 Ryan Way, South San Francisco, CA 94080-6370 • Main Office: (650) 588-9200 • Outside Local Area: (800) 258-9200 • www.stevenengineering.com

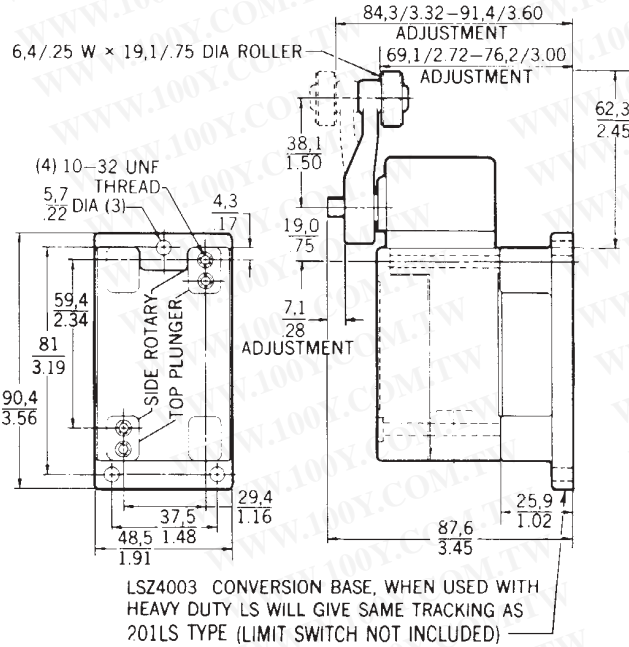
Mounting Dimensions (For reference only)

CONVERSION BASES

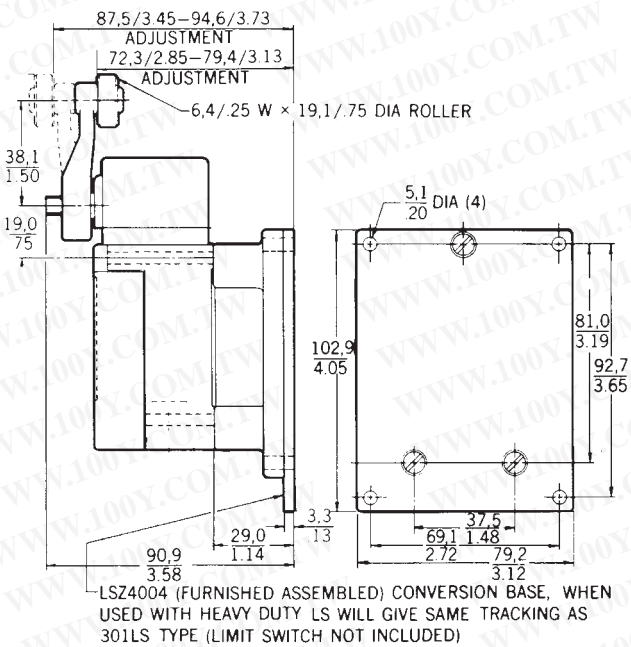
**SINGLE-POLE TOP PLUNGER
LSZ4003**



**SINGLE-POLE SIDE ROTARY
LSZ4003**



**DOUBLE-POLE SIDE ROTARY
LSZ4004**



Limit/Enclosed

Courtesy of Steven Engineering, Inc. • 230 Ryan Way, South San Francisco, CA 94080-6370 • Main Office: (650) 588-9200 • Outside Local Area: (800) 258-9200 • www.stevenengineering.com

LS/200LS Cross-Reference

The following cross-reference between compact LS/plug-in 200LS switches and HDLS switches applies to style, but not necessarily operating characteristics. When replacing LS/200LS with HDLS switches, the new characteristics should be considered.

The HDLS requires an adapter plate to interchange with 200LS (see page A41).

The HDLS requires an adapter plate to interchange with 200LS (see page A41).

NON PLUG-IN

| LS | HDLS | (Consisting Of) |
|----------|-----------|-------------------|
| 1LS1 | LSA3K-1D | (LSA3K + LSZ51D) |
| 1LS1-L | LSA3K-1D | (LSA3K + LSZ51D) |
| 1LS1-N | LSA3K-1C | (LSA3K1 + LSZ51C) |
| 1LS1-NA | LSA3K1-1C | (LSA3K1 + LSZ51C) |
| 1LS2 | LSA3K | — |
| 1LS3 | LSA3K-2C | (LSA3K + LSZ52C) |
| 1LS3-L | LSA3K-2C | (LSA3K + LSZ52C) |
| 1LS5 | LSR3K-1C | (LSR3K + LSZ51C) |
| 1LS6 | LSR3K-1D | (LSR3K + LSZ51D) |
| 1LS9 | LSP3K | — |
| 1LS10 | LSR3K-4M | (LSR3K + LSZ54M) |
| 1LS10-L | LSR3K-4M | (LSR3K + LSZ54M) |
| 1LS19 | LSR3K-1D | (LSP3K + LSZ51D) |
| 1LS23 | LSR3K | — |
| 1LS27 | LSP3K5 | — |
| 1LS34 | LSR3K-1C | (LSR3K + LSZ51C) |
| 1LS47 | LSH3K-4M | (LSH3K + LSZ54M) |
| 1LS58 | LSP3K-2C | (LSP3K + LSZ52C) |
| 1LS59 | LSH3K-2C | (LSH3K + LSZ52C) |
| 1LS128 | LSA3K-2K | (LSA3K + LSZ52K) |
| 1LS131 | LSH3K-1D | (LSH3K + LSZ51D) |
| 1LS139 | LSR3K-4M | (LSR3K + LSZ54M) |
| 1LS145 | LSH3K-2M | (LSH3K + LSZ52M) |
| 1LS156 | LSA3K-1C | (LSA3K + LSZ51C) |
| 1LS165-L | LSA3K4-2C | (LSA3K4 + LSZ52C) |
| 1LS212 | LSH3K | — |
| 1LS213 | LSH3K | — |
| 2LS1 | LSC3K | — |
| 2LS1-L | LSC3K | — |
| 2LS7 | LSC3K | — |

| LS | HDLS | (Consisting Of) |
|---------|----------|------------------|
| 3LS1 | LSF3K | — |
| 3LS1-L | LSF3K | — |
| 3LS5 | LSF3K4 | — |
| 4LS1 | LSE3K | — |
| 4LS1-L | LSE3K | — |
| 5LS1 | LSD3K | — |
| 5LS1-L | LSD3K | — |
| 5LS6 | LSD3K6 | — |
| 5LS6-L | LSD3K6 | — |
| 5LS7 | LSD3K6 | — |
| 5LS8 | LSD3K | — |
| 6LS1 | LSN3K-3B | (LSN3K + LSZ53B) |
| 6LS1-L | — | — |
| 6LS2 | LSN3K | — |
| 6LS2-L | LSN3K | — |
| 6LS3 | LSN3K-3S | (LSN3K + LSZ53S) |
| 8LS1 | LSJ3K-7N | — |
| 8LS1-L | LSJ3K-7N | — |
| 8LS4 | LSK3K-8B | — |
| 8LS125 | LSK3K-8B | — |
| 11LS1 | LSA7L-1D | (LSA7L + LSZ51D) |
| 11LS2 | LSA7L | — |
| 11LS3 | LSA7L-2C | (LSA7L + LSZ52C) |
| 11LS10 | LSR7L-4M | (LSR7L + LSZ54M) |
| 11LS156 | LSA7L-1D | (LSA7L + LSZ51D) |
| 12LS1 | LSC7L | — |
| 13LS1 | LSF7L | — |
| 14LS1 | LSE7L | — |
| 14LS3 | LSE7L5 | — |
| 15LS1 | LSD7L | — |
| 15LS8 | LSD7L | — |

PLUG-IN

| 200LS* | HDLS | (Consisting Of) |
|-------------|-----------|-------------------|
| 201LS1 | LSA1A-1D | (LSA1A + LSZ51D) |
| 201LS1-N | LSA1A1-1C | (LSA1A1 + LSZ51C) |
| 201LS2 | LSA1A | — |
| 201LS3 | LSA1A-2C | (LSA1A + LSZ52C) |
| 201LS6 | LSR1A-1D | (LSR1A + LSZ51D) |
| 201LS9 | LSP1A | — |
| 201LS10 | LSR1A-4M | (LSR1A + LSZ54M) |
| 201LS19 | LSP1A-1D | (LSP1A + LSZ51D) |
| 201LS23 | LSR1A | — |
| 201LS47 | LSH1A-4M | (LSH1A + LSZ54M) |
| 201LS143 | LSA1A-2D | (LSA1A + LSZ52D) |
| 201LS501 | LSA5A-1D | (LSA5A + LSZ51D) |
| 201LS501-A1 | LSA8A-1D | (LSA8A + LSZ51D) |
| 201LS502 | LSA5A | — |
| 201LS503 | LSA5A-2C | (LSA5A + LSZ52C) |
| 201LS503-A1 | LSA8A-2C | (LSA8A + LSZ52C) |
| 201LS510 | LSR5A-4M | (LSR5A + LSZ54M) |
| 202LS1 | LSC1A | — |
| 202LS7 | LSC1A | — |
| 202LS8 | — | — |

| 200LS/300LS* | HDLS | (Consisting Of) |
|--------------|----------|------------------|
| 203LS1 | LSF1A | — |
| 203LS501 | LSF5A | — |
| 204LS1 | LSE1A | — |
| 204LS501 | LSE5A | — |
| 205LS1 | LSD1A | — |
| 205LS7 | LSD1A3 | — |
| 205LS8 | LSD1A | — |
| 205LS501 | LSD5A | — |
| 206LS1 | LSN1A-3B | (LSN1A + LSZ53B) |
| 206LS2 | LSN1A | — |
| 208LS1 | LSJ1A-7N | — |
| 208LS125 | LSK1A-8B | — |
| 208LS501 | LSJ5A-7N | — |
| 208LS525 | LSK5A-8B | — |
| 301LS1 | LSM2D-1D | (LSM2D + LSZ51D) |
| 301LS2 | LSM2D | — |
| 301LS3 | LSM2D-2C | (LSM2D + LSZ52C) |
| 301LS5 | LSM2D-4N | (LSM2D + LSZ54N) |
| 301LS8 | LSA2B-1D | (LSA2B + LSZ51D) |
| 301LS28 | LSA2B | — |

* Require terminal block (18PA1 for 200 series, 18PA3 for 300 series), which must be ordered separately.

勝特力材料 886-3-5753170
勝特力电子(上海) 86-21-34970699
勝特力电子(深圳) 86-755-83298787
[Http://www.100y.com.tw](http://www.100y.com.tw)