



### LSD1A



**Series HDLS Plug-in: Top Roller  
Plunger; 1NC 1NO SPDT Snap Action;  
0.5 in - 14NPT conduit**

*Actual product appearance may vary.*

#### Features

- 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
- Plug-in and non plug-in versions have identical operating characteristics and are dimensionally interchangeable
- Manifold (rear-wire) version
- Explosion-proof versions
- Low temperature versions to -40°C (-40°F)
- Captive head and body screws
- Designed to withstand seismic shock
- Stainless steel (NEMA 4X) versions
- Pre-leaded cable or pre-wired connector types
- Epoxy filled wash down (NEMA 6P) types
- Completely fluorocarbon (FC) sealed versions

#### Description

#### Potential Applications

- Machine Tools
- Material Handling
- Packaging
- Presses
- Pulp and Paper
- Welding
- PLC Interface

Sensing and Control offers the world's most advanced line of MICRO SWITCH™ heavy-duty limit switches. These switches include boss-and-socket head design for secure head-to-body retention, unique all-metal drive train for consistent operating characteristics even at high temperature (lasts longer without the need for frequent adjustment than drive trains with plastic parts,) self-lifting pressure plate terminals save wiring time, easily identified grounding terminal (inside) for compliance with OSHA and other regulatory agency standards, one piece flat gasket (seals better than gaskets that go around curves and corners, does not contact terminal pins to reduce chances of fluid migration,) front mounting and interchangeability of single- and double-pole switches, plug-in and non plug-in with one another and with other switch brands, tracking interchangeability of actuator levers for single- and double-pole switches, plug-in and non plug-in, twin shaft seals for an extra measure of protection, inner FC O-ring seal, outer Buna-N seal (all FC available,) FC shaft and diaphragm seals on side rotary switches, rugged corrosion-resistant zinc head and body are phosphate treated and epoxy finished, exclusive teller tab assures proper torque (when it cannot be moved the lever is tight enough to prevent slippage) and domestic and international conduit taps.

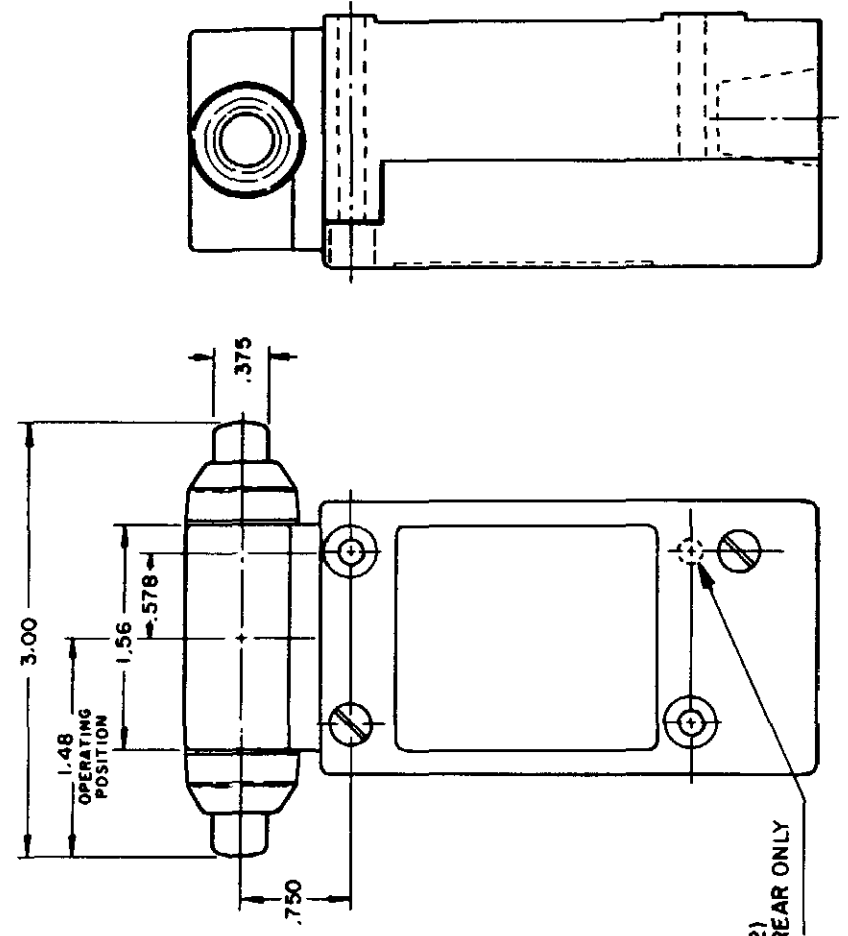
| Product Specifications         |  |
|--------------------------------|--|
| Availability                   | Global   |
| Operating Force (O.F.)         | 17,79 N max. [4 lb max.]   |
| Pretravel (P.T.)               | 1,78 mm max. [0.070 in max.]                                       |
| Overtravel (O.T.)              | 0.190 in min.  |
| Differential Travel (D.T.)     | 0,38 mm max. [0.015 in max.]                                       |
| Product Type                   | MICRO SWITCH™ Heavy-Duty Limit Switches                            |
| Actuator                       | Top Roller Plunger   |
| Circuitry                      | 1NC 1NO Single-Pole Double-Throw, Snap-Action, Double-Break        |
| Ampere Rating                  | 10 A (Thermal)   |
| Supply Voltage                 | 600 Vac and 250 Vdc max.   |
| Housing Material               | Zinc Die-Cast  |
| Termination Type               | 0.5 in - 14NPT conduit   |
| Housing Type                   | HDLS Plug-in   |
| Series Name                    | HDLS   |
| Sealing                        | NEMA 1, 3, 4, 4X, 6, 6P, 12, 13                                    |
| Approvals                      | UL listed, CSA Certified, CE Certified, CCC Certified              |
| CSA File #                     | LR57326/Master Contract 152457                                     |
| UL File #                      | E37138   |
| Operating Temperature Range    | -12 °C to 93 °C [10 °F to 200 °F]                                  |
| Comment                        | Head can be set at 90 degree increments for cam or slide actuation |
| Agency Approvals and Standards | EN60947-1, EN60947-5-1   |
| UNSPSC Code                    | 302119   |
| UNSPSC Commodity               | 302119 Switches and controls and relays                            |
| Sealed                         | Industrial   |



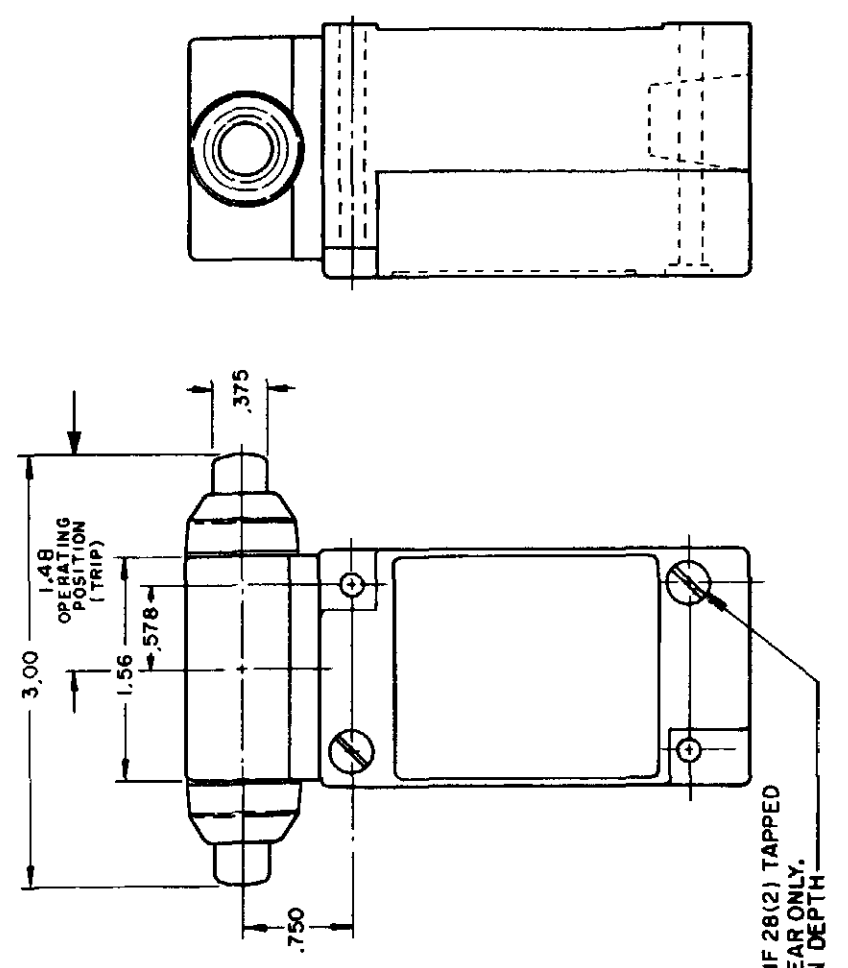
ISSUE 12 PSR 10JUL07 RELEASE NO CO-78498 REPLACES LSA-LSW SERIES

REVISIONS  
 L 0031956  
 M 10JUL07  
 B 201004  
 C 201748  
 D 202198  
 E 204871  
 F 206581  
 G 206763  
 H 207179  
 J 207474  
 K 0006871

CATALOG LISTING  
**M** LSA-LSW SERIES CHART 1  
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 CHECK 11AUG04  
 CHECK 11JUL94  
 CHECK 11AUG04



TYPE LSG2 and LSG4



TYPE LSG1 and LSG3

INITIAL POSITION (FREE POSITION) } PRETRAVEL  
 OPERATING POINT } DIFFERENTIAL TRAVEL  
 FULL TRAVEL } OVERTRAVEL

**TOP PLUNGER TYPES**

| CHARACTERISTICS             | LSC PLUNGER     |                           | LSD ROLLER PLUNGER |             | LSV ADJ PLUNGER |             | SEQUENCE BASIC |              |
|-----------------------------|-----------------|---------------------------|--------------------|-------------|-----------------|-------------|----------------|--------------|
|                             | PRETRAVEL (MAX) | DIFFERENTIAL TRAVEL (MAX) | SINGLE POLE        | DOUBLE POLE | SINGLE POLE     | DOUBLE POLE | 1ST STEP       | 2ND STEP     |
| PRETRAVEL (MAX)             | .070            | .070                      | .070               | .070        | .070            | .070        | .070           | .070         |
| DIFFERENTIAL TRAVEL (MAX)   | .015            | .020                      | .015               | .020        | .015            | .020        | .015           | .015         |
| OVERTRAVEL (MIN)            | .190            | .190                      | .190               | .190        | .190            | .190        | .170           | .170         |
| OPERATING FORCE (MAX)       | 4 LBS           | 4 LBS                     | 4 LBS              | 4 LBS       | 4 LBS           | 4 LBS       | 4 LBS          | 4 LBS        |
| OPERATING POINT             | 1.805 ± .030    | 2.200 ± .040              | 2.085 MIN          | 2.335 MAX   | 2.085 MIN       | 2.335 MAX   | 1.815 ± .030   | 2.210 ± .040 |
| FULL OVERTRAVEL FORCE (MAX) | 7 LBS           | 7 LBS                     | 7 LBS              | 7 LBS       | 7 LBS           | 7 LBS       | 7 LBS          | 7 LBS        |

**SIDE PLUNGER TYPES**

| CHARACTERISTICS             | LSE PLUNGER     |                           | LSF ROLLER PLUNGER |                 | LSW ADJ PLUNGER |              | SEQUENCE BASIC |              |
|-----------------------------|-----------------|---------------------------|--------------------|-----------------|-----------------|--------------|----------------|--------------|
|                             | PRETRAVEL (MAX) | DIFFERENTIAL TRAVEL (MAX) | SINGLE POLE        | DOUBLE POLE     | SINGLE POLE     | DOUBLE POLE  | 1ST STEP       | 2ND STEP     |
| PRETRAVEL (MAX)             | .100            | .100                      | .100               | .100            | .170            | .170         | .100           | .100         |
| DIFFERENTIAL TRAVEL (MAX)   | .045            | .045                      | .045               | .045            | .090            | .090         | .020           | .020         |
| OVERTRAVEL (MIN)            | .190            | .190                      | .190               | .190            | .080            | .080         | .170           | .170         |
| OPERATING FORCE (MAX)       | 6 LBS           | 6 LBS                     | 6 LBS              | 6 LBS           | 10 LBS          | 10 LBS       | 6 LBS          | 6 LBS        |
| OPERATING POINT             | 1.300 ± .030    | 1.735 ± .040              | ADJUSTABLE FROM    | ADJUSTABLE FROM | 1.480 ± .030    | 1.480 ± .030 | 1.310 ± .030   | 1.745 ± .040 |
| FULL OVERTRAVEL FORCE (MAX) | 6 LBS           | 6 LBS                     | 6 LBS              | 6 LBS           | 10 LBS          | 10 LBS       | 6 LBS          | 6 LBS        |

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 SWITCH - ENCLOSED  
 LSA-LSW SERIES CHART 1

SCALE NONE  
 DO NOT SCALE PRINT  
 DIMENSIONS ARE IN INCHES  
 TOLERANCES:  
 ONE PLACE (.0)  
 TWO PLACE (.00)  
 THREE PLACE (.000)  
 ANGLES  
 WEIGHT