WARNING
PERSONAL INJURY
DO NOT USE these products as safety or emergency stop devices, or in any other application where failure of the product could result in personal injury.
Failure to comply with these instructions could result in death or serious injury.

MOUNTING
All MICRO SWITCH Heavy Duty Limit Switches (HDLS) have exactly the same mounting dimensions. They may be mounted by either of two methods: (a) use two #10 screws from the front, or (b) use two #10-32 UNF screws from the back. The HDLS Series offers the advantage of front mount construction. The electrician will find a complete switch, with no parts missing and ample wiring space.

With plug-in construction, wiring and conduit connection is made to the base receptacle. This feature also reduces downtime, since the plug-in unit can be removed without disconnecting wiring or conduit.

To mount either type of HDLS switch, tighten mounting screws, tighten the plug-in unit or cover screws, and make sure conduit section is sealed. Use of sealant (Teflon® tape, pipe dope, etc.) is recommended to seal conduit connection. Torque 1.4 Nm to 1.8 Nm [12 in-lb to 16 in-lb].

Because of moisture condensation, it is not advisable to mount the switch upside down or at the low point of conduit runs.

Sealing | IP65/IP66/IP67
---|---
Enclosure type | NEMA 1, 3, 4, 4X, 6, 6P, 12, 13

Rated Operational Voltages (Ue) and Currents (Ie)

<table>
<thead>
<tr>
<th>Ue</th>
<th>Ie</th>
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<tbody>
<tr>
<td>120 Vac</td>
<td>6 A</td>
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<tr>
<td>600 Vac</td>
<td>1.2 A</td>
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<tr>
<td>125 Vdc</td>
<td>0.22 A</td>
</tr>
<tr>
<td>250 Vdc</td>
<td>0.11 A</td>
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</table>
WIRING
Use size #12AWG or smaller solid or stranded wire to connect to the pressure type connector terminals. Spades may be up to 0.312 inches wide, rings up to 0.312 inches dia. With spade or ring type connections, pre-insulated connectors or heat-shrinkable tubing should be used to provide insulation between terminals. The switch’s circuit diagram is shown on the nameplate.

It is easier to wire the HDLS double-pole units by connecting lead wires to the terminals nearest the conduit opening first. A grounding screw is located in the housing near the conduit opening.

MICRO SWITCH™ HDLS switch units with an indicator light in the cover are furnished with lead wires from the light connected to the normally open male terminals (#3 and #4) unless otherwise specified. Wires can be unsoldered and reconnected to the normally closed male terminals or ordered connected to the normally closed terminals by using a modification code. Always connect these wires to the same set of terminals used for the load. Across the normally open male terminals (#3 and #4), the light will be on with switch not actuated. Across the normally closed terminals (#1 and #2) the light will be off.

ADJUSTING INSTRUCTIONS
Actuator head. For application flexibility, the HDLS’s actuator head may be indexed at 90° intervals. Loosen the four captive head screws, place head in the desired position, and then securely re-tighten the four screws. Torque 1.4 NM to 1.8 Nm (12 in-lb to 16 in-lb).

Reversing the roller lever. Except for the offset roller levers, the roller arm may be reversed to face the roller to the inside or outside of the arm.

Positioning the lever. The lever on rotary actuated units is adjustable through 360° around the shaft. Loosen the screw with a 9/64 inch hexagon key wrench, move lever to desired position, and securely tighten the screw until “teller tab” can no longer be moved by hand. Then tighten the screw another 1/8 to 1/4 turn to assure lever is tight on the shaft. Hexagon key wrenches are provided in adjusting tool set (part number LSZ4005).

Adjustable Length Levers. A 9/64 hexagon key wrench is required to adjust length of adjustable levers.

Top Roller Plunger. Position top roller plunger on desired roller plane by adjusting the head as explained in the Actuator Head section above.

Side Roller Plunger. Grasp roller with pliers to rotate it to the desired horizontal or vertical plane.
CHANGING DIRECTION OF ACTUATION

Side Rotary. LSM (center neutral) and LSN (maintained) HDLS listings operate in both directions and cannot be changed. Listings with the first three letters LSA, LSH, LSL, LSP, LSU, and LSR may be changed to operate clockwise, counterclockwise, or both. NOTE: Instructions for adjusting switch operation are cast into the hinged cover (Figure 7). To change, follow these steps:

1. Loosen the head screws and remove the head from the switch housing.
2. On the bottom of the head, insert a screwdriver in slot provided (Figure 8) and lift open hinged cover.
3. Referring to Figures 7/8/9, slide cam all the way back, so cam is free to rotate on the shaft.
4. Using a screwdriver or similar tool, rotate cam to desired actuating position (Figures 10, 11, and 12.)
5. Slide cam all the way forward to its original position, and close hinged cover.
6. Replace operating head on switch housing and securely tighten head screws. Torque 1.4 NM to 1.8 Nm [12 in-lb to 16 in-lb].

Figure 7. MICRO SWITCH HDLS Cam Slide

Figure 8. MICRO SWITCH HDLS Side Rotary Actuator Head Terminology

Figure 9. MICRO SWITCH HDLS

Figure 10. MICRO SWITCH HDLS Cam Lobes for CW and CCW

Figure 11. MICRO SWITCH HDLS Cam Lobe for CW

Figure 12. MICRO SWITCH HDLS Cam Lobe for CCW
**Top Rotary.** Follow these steps to change operating direction of LSB type switches:

1. Loosen head screws and remove head from the switch housing.
2. From bottom of head grasp end of pin plunger and remove pin (Figure 13). It may be necessary to rotate actuating shaft to expose end of pin plunger.
3. Refer to Figure 14 and select correct pin plunger position for desired direction of actuation.
4. Insert the pin plunger in the position providing desired direction of actuation.
5. Replace the operating head on switch housing and securely tighten head screws (Torque 1.4 Nm to 1.8 Nm [12 in-lb to 16 in-lb]).

**Figure 13. MICRO SWITCH HDLS Top Rotary Actuator**

**GRAVITY RETURN HDLS**

Listings beginning with LSS are gravity return devices. During installation and setup, note the following:

1. Operate and release points exchange locations when shaft is rotated 180° (Figure 15).
2. Switch is near operate-release points when shaft slot is parallel to switch’s long axis (Figure 15).
3. The switch should be installed so that the weight of the actuator returns to the switch’s free position.

**Figure 15. MICRO SWITCH HDLS Gravity Return Operate and Release Points**

**Replacement parts**

When replacing parts, please follow the instructions included with the part.

Should a specific switch catalog listing not appear in this parts list, contact nearest Honeywell Sensing and Control authorized distributor or Honeywell sales office.

For ease of making switch adjustments, order LSZ4005 (lever and switch adjusting tool set). This set consists of a special 3/32-inch open wrench and necessary hexagon key wrenches to adjust all types of levers.

**Replacement Levers.** To order replacement levers, order the same part number that is metal stamped on either lever or lever hub. For additional options, see Table 7 of Heavy-Duty Limit Switch (HDLS) data sheet available on www.sensing.honeywell.com or follow this link: https://sensing.honeywell.com/honeywell-sensing-micro-switch-hdls-limit-product-sheet-002345-10-en.pdf
### Table 1. MICRO SWITCH HDLS Plug-in Type Replacement Components

<table>
<thead>
<tr>
<th>Catalog Listing on Switch Nameplate</th>
<th>Complete Plug-in Unit Less Base Receptacle</th>
<th>Plug-in Base Recept. Only</th>
<th>Operating Head Only</th>
<th>Contact Block (Basic Switch Only)</th>
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</thead>
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*Only the listing portion which determines the replacement part is shown. Listings with -7A, -7M, or -8A are complete listings.

### Table 2. MICRO SWITCH HDLS Non-Plug-in Type Replacement Components

<table>
<thead>
<tr>
<th>Catalog Listing on Switch Nameplate</th>
<th>Operating Head Only</th>
<th>Contact Block (Basic Switch Only)</th>
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</thead>
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</table>

**Not user-replaceable.
Figure 16. MICRO SWITCH HDLS Plug-in Unit and Base

Replacement Parts for gravity return LSS1H (extra/low torque LST1H) and two examples of a standard size rotary LSA1A type (LSYAC1A with Viton seals and LSYAB1A low-temperature version) are listed below.

<table>
<thead>
<tr>
<th>Catalog Listing</th>
<th>Plug-in Units Only*</th>
<th>Base Receptacle</th>
<th>Operating Head</th>
<th>Contact Block</th>
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* Reference page 5 for complete plug-in unit less base receptacle.

Proper Application of Limit Switches

To achieve greatest reliability and longest life possible, limit switches should be installed as outlined in NEMA ICS2-225.
Warranty/Remedy
Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship during the applicable warranty period. Honeywell’s standard product warranty applies unless agreed to otherwise by Honeywell in writing; please refer to your order acknowledgment or consult your local sales office for specific warranty details. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace, at its option, without charge those items that Honeywell, in its sole discretion, finds defective. The foregoing is buyer’s sole remedy and is in lieu of all other warranties, expressed or implied, including those of merchantability and fitness for a particular purpose. In no event shall Honeywell be liable for consequential, special, or indirect damages.

While Honeywell may provide application assistance personally, through our literature and the Honeywell web site, it is buyer’s sole responsibility to determine the suitability of the product in the application.

Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this writing. However, Honeywell assumes no responsibility for its use.