### Universal Disconnect Switch Installation Instructions (30A, 60A, 100A)  
(Cat 1494U-D30; 1494U-D60; 1494U-D100; Series A)


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</table>
Rod and Cable Operated Disconnect Switch Location

1 Disconnect Switch Location and Installation
A) For Rod Operated Switches, follow steps 1 - 5 below.
B) For Cable Operated Switches, follow steps 3 - 5 below.

**IMPORTANT:** When locating the 30A, 60A and 100A cable operated switch, verify that the minimum diameter for the loop of the cable between the switch mechanism and handle mechanism is not less than 6 inches. Any reduction to the diameter of the bend loop for the cable will reduce the efficiency of the cable system, create additional drag and friction within the cable conduit and possibly decrease system life.

1. Measure top hole of handle on enclosure.
   - Measure hole center to side of enclosure: _______
   - Measure hole center to top of enclosure: _______

2. Use template PN-254969 to locate handle holes on mounting plate. Lay template on enclosure back plate. Align using the top hole on paper and measurements taken from step 1.

3. Tape template down. Center punch and drill (4) 11/64" holes for thread forming (TAP-TITE) screws provided with switch.

4. Install Disconnect Switch.

5. Install Line Terminal Guard.

**Wiring Diagrams**

**Single Phase AC**

- L1
- L2
- L3
- T1
- T2
- T3

**Three Phase AC**

- L1
- L2
- L3
- T1
- T2
- T3

**Direct Current**

- L1
- L2
- L3
- T1
- T2
- T3
Rod Operated Switch Installation

1494U Handle Installation

1. Install gasket.

2. Install spring bracket and handle. **TIP:** Move handle to "ON" position to help align handle and bracket. Return handle to "OFF" position once connected.

3. Install defeater lever.

Cutting Connecting Rod

1. Measure working depth of enclosure.

2. Measure, mark and cut connecting rod.

3. Remove burrs.

<table>
<thead>
<tr>
<th>Connecting Rod</th>
<th>30A - 60A - 100A Disconnect Switches</th>
<th>Enclosure Working Depth &quot;N&quot;</th>
</tr>
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<tbody>
<tr>
<td>1494U-R1</td>
<td>Min. 6-1/2&quot;</td>
<td>Max. 19&quot;</td>
</tr>
</tbody>
</table>

For enclosures with a working depth greater than 19" but less than 23", use connecting rod kit 1494V-RA4.

Connecting Rod Installation

1. Verify that disconnect switch and handle are in "OFF" position (Switch blades will be visible).

2. Rotate connecting rod into drive bar (11) full turns.

See steps 3 and 4 for final rod alignment.

3. Align threaded rod toward handle and, if needed, rotate counterclockwise until ears engage the primary link slots.

4. Ensure that the handle is in the full "OFF" position.
Rod Operated Switch Installation (Cont’d)

Connecting Rod Installation (Cont’d)

5 Engage ears of connecting rod into slots of handle link.
6 Install hitch pin through ears of connecting rod.
7 Install spring to handle link.

Rod Adjustment Procedure

Adjustment Procedure if switch does not turn "ON".

1. Move handle to "ON" position.
2. If switch does not fully close, return handle to "OFF" position.
3. Remove link spring and hitch pin to disengage the connecting rod from the primary link.
4. Turn connecting rod counter-clockwise (1 or more) full turns.
5. Re-engage connecting rod in primary link of handle, insert hitch pin and re-test.
6. Repeat steps 1 - 5 as necessary.
7. Re-install link spring.

Adjustment Procedure if switch does not turn "OFF".

1. Move handle to "OFF" position.
2. If switch does not fully open, return handle to "ON" position.
3. Remove link spring and hitch pin to disengage the connecting rod from the primary link.
4. Turn connecting rod clockwise (1 or more) full turns.
5. Re-engage connecting rod in primary link of handle, insert hitch pin and re-test.
6. Repeat steps 1 - 5 as necessary.
7. Re-install link spring.
Cable Operated Switch Installation

1 1494U Handle and Cable Mechanism Installation

Enclosures with Right Flange

1a Install spring to handle link.

2a Connect handle link to lever pin.

3 Install handle nuts and hitch pin.

4 Install other end of spring to cable mechanism bracket using needlenose pliers.

Enclosures with Left Flange

1b Install spring to handle link.

2b Connect handle link to lever pin.

3 Install handle nuts and hitch pin.

5 Install defeater lever.

Universal Disconnect Switch Installation Instructions (30A, 60A, 100A)

Publication 1494U-IN001H-EN-P - October 2016

PN-335193 DIR 10001182729 (Version 07)
Cable Operated Switch Installation (Cont’d)

**2 Cable to Switch Mechanism Installation**

**IMPORTANT:** Verify that the cable assembly does not interfere with any mechanical and moving parts. Keep the cable conduit a minimum of 1/2” from all heat sources and current carrying terminals, fuses, transformers, etc.

**IMPORTANT:** When locating the 30A, 60A and 100A switch, verify that the minimum diameter for the loop of the cable between the switch mechanism and the handle mechanism is not less than 6 inches.

1. Locate switch as to not pinch the cable or create a bend less than 6” in diameter.

   - **NOTE:** All bends must be greater than 6” in diameter.
   - Do Not Pinch Cable

2. Use washer and hitch pin to attach cable pivot to switch mechanism cable slot.

   - Install pin as shown. Do not push past second bend on clip.

3. Remove drive bar for rod operation, washer and hitch pin; discard.

   - 30-35 lb-in (3.4-4 N-m)
Cable Adjustment Procedure

1. Move handle to “ON” position.

2. Remove cable pivot hitch pin and washer.

3. Push cable pivot out of handle bracket.

4. Return handle to “OFF” position.

5. (a) ADJUSTMENT PROCEDURE IF SWITCH DOES NOT FULLY CLOSE
   Unscrew cable pivot ONE full turn counter-clockwise to extend cable.

5. (b) ADJUSTMENT PROCEDURE IF SWITCH DOES NOT FULLY OPEN
   Turn cable pivot ONE full turn clockwise to shorten cable.

6. Return handle to “ON” position and insert cable pivot back into mechanism.

7. Re-install cable pivot washer and hitch pin.

8. Confirm switch operates properly and repeat steps 5-7 if necessary.
Enclosure without Handle Cutout

- Some Enclosures with hinged flange panels may require additional flange support brackets to stiffen panel. Consult your local enclosure manufacturer.

1 Locate Handle

![Diagram showing the location of handle and handle holes for right and left hand flanges.]

2 Drill Handle Holes

![Diagram showing the drill handle holes and top handle hole for right and left hand flanges.]

Enclosure Dimensions

<table>
<thead>
<tr>
<th>NEMA SIZE</th>
<th>A (min)</th>
<th>B (min)</th>
<th>C (max)</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>J</th>
</tr>
</thead>
<tbody>
<tr>
<td>30A, 60A</td>
<td>4 - 5/8&quot;</td>
<td>1 - 1/4&quot;</td>
<td>1 - 3/32&quot;</td>
<td>4 - 11/16&quot;</td>
<td>1 - 9/16&quot;</td>
<td>1&quot;</td>
<td>7/8&quot;</td>
</tr>
<tr>
<td>100A</td>
<td>6 - 1/16&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Door Catch Bracket Installation
Right hand installation shown (for left hand installation follow similar procedures)

Door Catch Mounting Bracket:
- Provided with projections for welding.
- Projections can also be used as a guide for drilling holes.
- Can be used as a template to drill corresponding holes in the enclosure door.
- User to supply the hardware for fastening the bracket.
- The bracket hardware must be inaccessible to unauthorized personnel.
- Fasteners must provide the degree of ingress protection for the environmental rating of the enclosure.

Dimension $K$ (3/4" to 1")
- When using small disconnect handle kit only (1494U-HP1, -HM1 or -HS1), use door catch provided with handle kit.
- When using small disconnect handle kit and small door hardware kits (1494V-L1, -LL1, -L2 or -LL2), use door catch provided with door hardware kit.

Dimension $K$ (1-1/8" to 1-3/8")
- When using small disconnect handle kit only (1494U-HP1, -HM1 or -HS1), use door catch (40492-080-02) which can be ordered from factory.
- When using small disconnect handle kit and large door hardware kits (1494V-L3 or -LL3), use door catch provided with door hardware kit.

Enclosure Dimensions

<table>
<thead>
<tr>
<th>NEMA SIZE</th>
<th>A (min)</th>
<th>B (min)</th>
<th>C (max)</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>30A, 60A</td>
<td>4 - 5/8&quot;</td>
<td>1 - 1/4&quot;</td>
<td>1 - 3/32&quot;</td>
<td>1 - 5/8&quot;</td>
<td>2 - 3/8&quot;</td>
</tr>
<tr>
<td>100A</td>
<td>6 - 1/16&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Dimension $C$ (0.5")
- Right Hand Flange
- Left Hand Flange
Trailer Fuse Block and Phase Barrier Installation

1 Trailer Fuse Block Location

2 Snap phase barrier off to desired length as shown in table above.

3 Slide phase barriers into fuse block and click in place.

4 Slide phase barriers into left channels on switch.

5 Fasten fuse block to panel.

**Phase barrier not required.

---

**Fuse Specifications**

<table>
<thead>
<tr>
<th>Amps</th>
<th>Volts</th>
<th>Class</th>
<th>DIM &quot;Z&quot; (in)</th>
<th>Phase Barrier</th>
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<tbody>
<tr>
<td>30</td>
<td>250</td>
<td>H/R</td>
<td>1.791</td>
<td>**</td>
</tr>
<tr>
<td>30</td>
<td>600</td>
<td>H/R</td>
<td>4.585</td>
<td>B</td>
</tr>
<tr>
<td>30</td>
<td>600</td>
<td>J</td>
<td>1.791</td>
<td>**</td>
</tr>
<tr>
<td>30</td>
<td>600</td>
<td>HRCII-C</td>
<td>3.024</td>
<td>A</td>
</tr>
<tr>
<td>60</td>
<td>250</td>
<td>H/R</td>
<td>2.622</td>
<td>A</td>
</tr>
<tr>
<td>60</td>
<td>600</td>
<td>H/R</td>
<td>5.122</td>
<td>B</td>
</tr>
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<td>60</td>
<td>600</td>
<td>J</td>
<td>1.976</td>
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<tr>
<td>100</td>
<td>250</td>
<td>H/R</td>
<td>5.636</td>
<td>C</td>
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<tr>
<td>100</td>
<td>600</td>
<td>H/R</td>
<td>7.636</td>
<td>D</td>
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<td>J</td>
<td>4.449</td>
<td>B</td>
</tr>
<tr>
<td>100</td>
<td>600</td>
<td>HRCII-C</td>
<td>4.402</td>
<td>B</td>
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**Universal Disconnect Switch Installation Instructions (30A, 60A, 100A)**

Publication 1494U-IN001H-EN-P - October 2016
PN-335193 DIR 10001182729 (Version 07)
Auxiliary Contact Installation

- Use #18 - #12 AWG wire (0.75-2.5 mm²) for wire routing.
- Apply 6-8 lb-in (0.7-0.9 N-m) torque to the wire.

Auxiliary Contact Wire Routing

- Utilize wire routing channels and wire tie-down points for installation.

Universal Disconnect Switch Installation Instructions (30A, 60A, 100A)

Publication: 1494U-IN001H-EN-P - October 2016
PN: 335193
**Lug Connectors**

<table>
<thead>
<tr>
<th>Switch Rating (A)</th>
<th>Lug Kit</th>
<th>Lug Description</th>
<th>Wire Range</th>
<th>Lug Material</th>
<th>Wire Material</th>
<th>Lug to Terminal Torque</th>
</tr>
</thead>
<tbody>
<tr>
<td>30…60</td>
<td>1494U-LA36</td>
<td>Single Port</td>
<td>(1) 14 AWG … 2 AWG (Cu) (1) 12 AWG … 2 AWG (Al) (2) 14 AWG … 10 AWG (Cu) (2) 12 AWG … 10 AWG (Al)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>100</td>
<td>1494U-LA100</td>
<td></td>
<td>(1) 14 AWG … 1/0 AWG (Cu) (1) 12 AWG … 1/0 AWG (Al) (2) 12 AWG … 4 AWG (Cu-Al)</td>
<td>Al</td>
<td>Cu or Al</td>
<td>40-60 lb-in (4.5-6.8 N-m)</td>
</tr>
<tr>
<td>30…100</td>
<td>1494U-LM31</td>
<td>Multi-port</td>
<td>(1) 14 AWG … 4 AWG (Cu) (1) 12 AWG … 4 AWG (Al) (2*) 10 AWG (Cu - Al)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30…60</td>
<td>1494U-LC36</td>
<td>Single Port</td>
<td>(1) 14 AWG … 4 AWG (Cu) (2*) 14 AWG … 8 AWG (Cu) (4) 16 AWG (Cu)</td>
<td>Cu</td>
<td>Cu Only</td>
<td></td>
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<tr>
<td>100</td>
<td>1494U-LC100</td>
<td></td>
<td>(1) 8 AWG…1/0 AWG (Cu)</td>
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</table>

*Wire pairs must be same size and material.*

**Wire Torque**

<table>
<thead>
<tr>
<th>Lug Kit</th>
<th>1494U-LA36</th>
<th>1494U-LA100</th>
<th>1494U-LM31</th>
<th>1494U-LC36</th>
<th>1494U-LC100</th>
<th>Wire Gauge (AWG)</th>
<th>Torque (in-lbs)</th>
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<tbody>
<tr>
<td></td>
<td>1/0…2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1/0…2</td>
<td>120</td>
</tr>
<tr>
<td>1/0…2</td>
<td>-</td>
<td>35</td>
<td>-</td>
<td>25</td>
<td>-</td>
<td>4…6</td>
<td>120</td>
</tr>
<tr>
<td>4…6</td>
<td>-</td>
<td>25</td>
<td></td>
<td></td>
<td>45</td>
<td>8</td>
<td>120</td>
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<tr>
<td>8</td>
<td>45</td>
<td>45</td>
<td>45</td>
<td>45</td>
<td>20</td>
<td>10…14</td>
<td>120</td>
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</table>

**Line Terminal Adapter Installation**

**Electrical Interlock Installation**

![Diagram of Line Terminal Adapter Installation](image1)

**Lug Adapter Kit**

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Disconnect Switch Rating (Size)</th>
<th>Adapter Torque</th>
<th>Wire Clamp Torque</th>
<th>Wire Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>1494U-ALT31</td>
<td>30A/60A/100A</td>
<td>50 lb-in (5.6 N-m)</td>
<td>(1) 14-10 STR/SOL (1) 8 STR (2) 14 SOL/SOL (2) 14 STR/STR (2) 12 SOL/SOL (2) 12 STR/STR (2) 10 SOL/SOL (2) 10 STR/STR (2) 8 STR/STR</td>
<td>25 lb-in (2.8 N-m)</td>
</tr>
</tbody>
</table>

![Diagram of Electrical Interlock Installation](image2)
Fuse Clip and Fuse Installation

30A/60A Fuse Clip Installation

100A Fuse Clip Installation

30A/60A Fuse Installation

100A Fuse Installation

23-37 lb-in (2.6-4.2 N·m)

18-22 lb-in (2-2.5 N·m)
Protective Cover Installation

1. Position cover in front of switch as shown. Remove line side shield.

2. Spread sides apart at bottom to fit around fuse block.

3. Rotate cover up and slide top sides into tracks shown on switch. Push in until fully inserted and pull cover down slightly to ensure engagement.

4. Press center of cover tight to mounting plate to engage notch in right side of cover with switch bracket.

5. Ensure flange on left side of cover has snapped under fuse block.

6. Optional: Install high-vibration application screw in bottom slot.
## Bulletin 1494U Disconnect Switch Component Accessory List

<table>
<thead>
<tr>
<th>Component</th>
<th>Cat No.</th>
</tr>
</thead>
</table>
| Disconnect Switch and Mechanism  | Switch and Mechanism  
1494U-D30 (30A)  
1494U-D60 (60A)  
1494U-D100 (100A)  
Includes:  
Line Side Lugs  
Line Side Shield (Field Installed)  
Load Side Lugs (Field Installed)  
1494U-AL36 (30A/60A) (Pkg Qty 3)  
1494U-AL100 (100A) (Pkg Qty 3) |
| Handle                           | 1494U-HM1 (5-1/2" Painted Metal) (30A - 200A)  
1494U-HP1 (5-1/2" Molded Plastic) (30A - 200A)  
1494U-HS1 (5-1/2" Stainless Steel) (30A - 200A) |
| Connecting Rod                   | 1494U-R1 (30A-100A)  
Enclosure Working Depth: 6-1/2" to 19" |
| Cable-Operated Handle Mechanism  | Cable Handle Mechanism:  
1494U-C313 (3 ft. Cable)  
1494U-C314 (4 ft. Cable)  
1494U-C315 (5 ft. Cable)  
1494U-C316 (6 ft. Cable) |
| Fuse Block                       | 1494U-F30 (30A)  
1494U-F60 (60A)  
1494U-F100 (100A)  
Includes:  
Phase Barriers  
1494U-PB31 (Field Installed) (Pkg Qty 2) |
| Fuse Clip Kits                   | Fuse Clip Kits (Pkg Qty 6):  
1494U-FC302J (30A 250V Class J)  
1494U-FC302R (30A 250V Class R)  
1494U-FC30J (30A 600V Class J)  
1494U-FC60J (60A 600V Class J)  
1494U-FC100J (100A 600V Class J)  
1494U-FC30R (30A 600V Class R)  
1494U-FC60R (60A 600V Class R)  
1494U-FC100R (100A 600V Class R) |

(1494U-D30 shown)  
(1494U-HM1 shown)  
(1494U-F30 shown)  
(1494U-FC30J shown)
### Bulletin 1494U Disconnect Switch Component Accessory List (Cont’d)

<table>
<thead>
<tr>
<th>Component</th>
<th>Cat No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auxiliary Contacts</td>
<td>1494U-NO (1 N.O.)</td>
</tr>
<tr>
<td></td>
<td>1494U-NC (1 N.C.)</td>
</tr>
<tr>
<td></td>
<td>1494U-NOLV (1 N.O. Low Level)</td>
</tr>
<tr>
<td></td>
<td>1494U-NCLV (1 N.C. Low Level)</td>
</tr>
<tr>
<td>Aluminum Lugs</td>
<td>1494U-LA36 (30A - 60A)</td>
</tr>
<tr>
<td></td>
<td>1494U-LA100 (100A)                                                    (Pkg Qty 3)</td>
</tr>
<tr>
<td>Copper Lugs</td>
<td>1494U-LC36 (30A - 60A)</td>
</tr>
<tr>
<td></td>
<td>1494U-LC100 (100A)                                                    (Pkg Qty 3)</td>
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<tr>
<td>Multiport Lugs</td>
<td>1494U-LM31 (30A - 100A)</td>
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<tr>
<td></td>
<td>(Pkg Qty 3)</td>
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<tr>
<td>Line Terminal Adapters</td>
<td>1494U-ALT31 (Pkg Qty 2)</td>
</tr>
<tr>
<td>Phase Barriers</td>
<td>1494U-PB31 (Pkg Qty 2)</td>
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</table>

<table>
<thead>
<tr>
<th>Switch Rating</th>
<th>Fuse Class</th>
<th>Fuse Clip Rating 250V</th>
<th>Fuse Clip Rating 600V</th>
<th>Fuse Clip Cat No.</th>
<th>Fuse Cover Cat No.</th>
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</thead>
<tbody>
<tr>
<td>30/60/100A</td>
<td>H,J</td>
<td>30A</td>
<td>30A</td>
<td>1494U-FC302J</td>
<td>1494U-PC1</td>
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<tr>
<td>30A</td>
<td>R</td>
<td>30A</td>
<td>30A</td>
<td>1494U-FC302R</td>
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<tr>
<td>30A</td>
<td>H,J</td>
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<td>30A</td>
<td>1494U-FC303J</td>
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<td>60A</td>
<td>H,J</td>
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<td>60A</td>
<td>1494U-FC60J</td>
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<td>H,J</td>
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<td>30A</td>
<td>1494U-FC30R</td>
<td>1494U-PC2</td>
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