

### **Multi-Wire Neutral Power Bars**

Power collection (solar), Power distribution, Ground Bar, Floating Ground bar, Neutral Bar.

Multi-purpose, compact, 3-tier, 600V, 2000V, multi-wire power and ground and neutral lug for panel builders UL508A. Bus mounted or optional insulated stand-off mounted, SA1.1 Listed category ZMVV. Usable with UL508A table SA1.1 Listed Category QEUY2 standoffs. Modular design allows: 24 wire and 36 wire versions 4-14 AWG, 85A per wire NEC rated with 75C wire, 310A 1x350kcmil copper wire, 620A 2x 350kcmil copper wire, Three tier design provides compact footprint to save panel space, Lug rated under UL486A-B for up to 2000V uninsulated, Supplied with or without 350kcmil-6 line wire lug, 1 line lug per kit (24S4-3) and 1 or 2 line lugs per kit (36S4-3), Includes anti-rotation feature for line wire lug(s), Line lug mounting hardware included in kit, Two types of customer mounting bolt configuration possible: bolts with and without nuts. Optional standoffs insulators for wide range of QEUY2 rated voltages. Slotted steel zinc plated 4014 binding screws for universal screwdriver availability. Hex socket 350kcmil line wire binding screw for ease of torquing large wires. Optional hex socket load screws.

### GET STARTED

This catalog has been provided to help you build the right part for your project. This catalog is also user interactive, select an kit option (or image), and you'll jump to that kit's specifications. Please click here to get started, or scroll down. You may also print this at any time.



"24S4-3" WIRE BODY. 24 WIRE HOLES, 4-14 AWG, TWO MOUNTING BOLT HOLES. CLICK TO SEE MORE ON PAGE 6



36S4-3 WIRE BODY. 36 WIRE HOLES, 4-14 AWG, TWO MOUNTING BOLT HOLES, CLICK TO SEE MORE ON PAGE 7



600 VOLT KIT WITH 5/16-18 UNC HEX WASHER HEAD CAP SCREW CLICK TO SEE MORE ON PAGE 3



2000 VOLT KIT WITH 5/16-18 UNC HEX CAP SCREW & WASHER CLICK TO SEE MORE ON PAGE 4



S350 KIT WITH 5/16-18 UNC HEX WASHER HEAD CAP SCREW & WASHER CLICK TO SEE MORE ON PAGE 5



"600v-Kit" Voltage Insulator With 5/16-18 UNC x 3/4 long Hex washer screw CLICK TO SEE MORE ON PAGE 3



"2000v-Kit" Voltage Insulator With 5/16-18 UNC x 3/4 long Hex washer screw, and 5-16 SAE flat washer CLICK TO SEE MORE ON PAGE 4



"S350-Kit" 350kcmil-6 AWG 24 WIRE HOLES, 4-14 AWG, TWO MOUNTING BOLT HOLES, CLICK TO SEE MORE ON PAGE 5



"24S4-3" WIRE BODY. 24 WIRE HOLES, 4-14 AWG, TWO MOUNTING BOLT HOLES. CLICK TO SEE MORE ON PAGE 6



36S4-3 WIRE BODY. 36 WIRE HOLES, 4-14 AWG, TWO MOUNTING BOLT HOLES, CLICK TO SEE MORE ON PAGE 7



"24S4-3-S350-2000v" 24 WIRE HOLES, 4-14 AWG, TWO MOUNTING BOLT HOLES, CLICK TO SEE MORE ON PAGE 12



"36S4-3-S350" 36 WIRE HOLES, 4-14 AWG, WITH 350kcmil-6 AWG WIRE LUG, CLICK TO SEE MORE ON PAGE 13



"36S4-3-600v". 36 WIRE HOLES, 4-14 AWG, x2 600 Volt Insulators, with supplied hardware. CLICK TO SEE MORE ON PAGE 14



"36S4-3-2000v" 36 WIRE HOLES, 4-14 AWG, x2 2000 Volt Insulators, with supplied hardware. CLICK TO SEE MORE ON PAGE 15



"36S4-3-S350-600v" 36 WIRE HOLES, 4-14 AWG, x2 600 Volt Insulators, & (1) 350kcmil-6 AWG WIRE LUG with supplied hardware. CLICK TO SEE MORE ON PAGE 16



"36S4-3-S350-2000v" 36 WIRE HOLES, 4-14 AWG, x2 2000 Volt Insulators, & (1) 350kcmil-6 AWG WIRE LUG with supplied hardware. CLICK TO SEE MORE ON PAGE 17



36S4-3-x2-S350 KIT. 36 WIRE HOLES, 4-14 AWG, (x2) 350kcmil-6 AWG wire lug, with supplied hardware. CLICK TO SEE MORE ON PAGE 18



"36S4-3-S350-600v" 36 WIRE HOLES, 4-14 AWG, x2 600 Volt Insulators, & 350kcmil-6 AWG WIRE LUG with supplied hardware. CLICK TO SEE MORE ON PAGE 19



"36S4-3-S350-2000v" 36 WIRE HOLES, 4-14 AWG, x2 2000 Volt Insulators, & 350kcmil-6 AWG WIRE LUG with supplied hardware. CLICK TO SEE MORE ON PAGE 20

Click here to see the 600 volt insulator lug part schematics

Click here to see the 24 wire/hole line lug part schematics

Click here to see the 2000 volt insulator lug part schematics

24S4-3-S350"

"24S4-3-600v"

x2 600 Volt Insulators,

with supplied hardware.

'24S4-3-S350-600v"

"24S4-3-S350-600v"

24 WIRE HOLES, 4-14 AWG,

24 WIRE HOLES, 4-14 AWG.

24 WIRE HOLES, 4-14 AWG,

24 WIRE HOLES, 4-14 AWG,

TWO MOUNTING BOLT HOLES,

**CLICK TO SEE MORE ON PAGE 8** 

**CLICK TO SEE MORE ON PAGE 9** 

TWO MOUNTING BOLT HOLES.

TWO MOUNTING BOLT HOLES,

CLICK TO SEE MORE ON PAGE 11

CLICK TO SEE MORE ON PAGE 10

Click here to see the 36 wire/hole line lug part schematics

Click on a picture or description to see more details about this product. Please contact us if you have any questions:

> Phone: 330-562-8983 | Fax: 330-562-9990 e-Mail: sales@lugsdirect.com

# 600 Volt Insulator Kit



600 volt insulator, UL508A List SA1.1 category QEUY2 Recognized standoffs for power voltages and floating ground applications when used in accordance with UL508A and NEC code requirements. Screw for lug to standoff fastening is provided. Zinc plated steel screw.



Kit includes: (x1) 600 volt insulator, (x1) 5/16-18 UNC x ¾ long Steel zinc plated RoHS hex washer head screw. *Two kits are needed to complete a full kitted project.* 

TO BE ADDED WITH OTHER AVALIABLE KIT OPTIONS. See website for current pricing. https://lugsdirect.com



# 2000 Volt Insulator Kit



2000 volt insulator, UL508A List SA1.1 category QEUY2 Recognized standoffs for power voltages and floating ground applications when used in accordance with UL508A and NEC code requirements. Screw for lug to standoff fastening is provided Zinc plated steel screw and 5/16 SAE flat washer, steel zinc plated and RoHS.



Kit includes: (x1) 2000 volt insulator, (x1) 5/16-18 UNC x 7/8" long Steel zinc plated RoHS hex head cap screw and (x1) 5/16 SAE flat washer steel zinc plated RoHS.

*Two kits are required to complete a full kit project.* 

TO BE ADDED WITH OTHER AVALIABLE KIT OPTIONS. See website for current pricing. https://lugsdirect.com



# S350-Kit



350 kcmil-6 AWG wire range, and FLEX wire class G-K including mm2 class 5, 1 barrel, aluminum or copper wire, CU9AL, 90C temperature rating, one mounting hole of .343 inch dia 5/16" bolt, UL Listed, CSA Certified.



Supplied with 5/16-18 UNC x <sup>3</sup>/<sub>4</sub> long Steel zinc plated RoHS hex head cap screw and (1) 5/16 SAE flat washer steel zinc plated RoHS.

EXAMPLES OF S350-KITS FULLY ASSEMBLED IN KITTED PROJECTS



TO BE ADDED WITH OTHER AVALIABLE KIT OPTIONS. See website for current pricing. https://lugsdirect.com



# **2454-3**



Multi-wire, Lug body only.

(24) twenty four 4-14 wire holes lug for power distribution, power collection, structure grounding, floating ground or neutral bar applications.

UL486 ZMVV Listed, UL508A SA1.1 Listed category, and CSA Certified. (2) two mounting bolt holes with clearance for ¼" full threaded bolts and threaded for 5/16 UNC bolts.

May be bus mounted, bare panel case, or bare chassis mounted or insulated using optional UL508A List SA1.1 category QEUY2 Recognized standoffs for power voltages up to 2000V and floating ground applications when used in accordance with UL508A and NEC code requirements. Copper and tin plated aluminum high strength alloy. Zinc plated steel slotted screws.

TO BE ADDED WITH OTHER AVALIABLE KIT OPTIONS. See website for current pricing. https://lugsdirect.com



Customer Supplied Mounting bolts from the top (1/4-20 bolts X2)



Customer Supplied Mounting bolts from the bottom (5/16-18 bolts X2)



# **3654-3**



Multi-wire, Lug Body Only

(36) thirty six 4-14 wire holes lug for power distribution, power collection, structure grounding, floating ground or neutral bar applications.

UL486 ZMVV Listed, UL508A SA1.1 Listed category, and CSA Certified. (2) two mounting bolt holes with clearance for ¼" full threaded bolts and threaded for 5/16 UNC bolts.

May be bus mounted, bare panel case, or bare chassis mounted or insulated using optional UL508A List SA1.1 category QEUY2 Recognized standoffs for power voltages up to 2000V and floating ground applications when used in accordance with UL508A and NEC code requirements. Copper and tin plated aluminum high strength alloy. Zinc plated steel slotted screws.

TO BE ADDED WITH OTHER AVALIABLE KIT OPTIONS. See website for current pricing. https://lugsdirect.com



Customer Supplied Mounting bolts from the top (1/4-20 bolts X2)



Customer Supplied Mounting bolts from the bottom (5/16-18 bolts X2)



### 24S4-3-S350-KIT



After customer assembly of line lug

Multi-wire lug supplied with (1) Kitted 350 kcmil-6 AWG line lug with mounting screw & washer. Anti-rotation feature prevent twisting of lug when tightening mounting screw or wire binding screw of mounting lug.

(24) Twenty-four 4-14 wire holes lug for power
distribution, power collection, structure grounding, floating
ground or neutral bar applications.
UL486 ZMVV Listed, UL508A SA1.1 Listed category, and
CSA Certified. (2) Two mounting bolt holes with clearance
for ¼" full threaded bolts and threaded for 5/16 UNC bolts.





May be bus mounted, bare panel case, or bare chassis

mounted or insulated using optional UL508A List SA1.1 category QEUY2 Recognized standoffs for power voltages up to 2000V and floating ground applications when used in accordance with UL508A and NEC code requirements. Copper and tin plated aluminum high strength alloy. Zinc plated steel slotted screws.

### Purchase list for **24S4-3-S350-KIT.**

- (x1) 24S4-3 Body per kit project.
- (x1) S350-Kit, per kit project.





24S4-3 BODY

S350-KIT



# 24S4-3-600V-KIT



Multi-wire lug with (2) two SA1.1 category QEUY2 600 volt standoffs. (24) twenty four 4-14 wire holes lug for power distribution, power collection, structure grounding, floating ground or neutral bar applications. UL486 ZMVV Listed, UL508A SA1.1 Listed category, and CSA Certified. (2) Two mounting bolt holes with clearance for ¼" full threaded bolts and threaded for 5/16 UNC bolts.



After customer assembly of line lug

Insulated using (2) two UL508A List SA1.1 category QEUY2 Recognized standoffs for power voltages up to 600V and floating ground applications when used in

accordance with UL508A and NEC code requirements. (2) Two screws for lug to standoff fastening is provided. Copper and tin plated aluminum high strength alloy. Zinc plated steel slotted screws.

#### Purchase list for 24S4-3-600V-KIT

- (x1) 24S4-3 Body per kit project.
- (x2) 600 Volt Insulator-Kit, per kit project. Two kits are needed to complete one full kit-project.





24S4-3 BODY

600v insulator-KIT

See website for current pricing. https://lugsdirect.com



# 24S4-3-2000V-KIT



After customer assembly of line lug

Multi-wire lug with (2) two SA1.1 category QEUY2 2000 volt standoffs. (24) twenty four 4-14 wire holes lug for power distribution, power collection, structure grounding, floating ground or neutral bar applications. UL486 ZMVV Listed, UL508A SA1.1 Listed category, and CSA Certified. (2) Two mounting bolt holes with clearance for ¼" full threaded bolts and threaded for 5/16 UNC bolts.



Insulated using (2) two UL508A List SA1.1 category

QEUY2 Recognized standoffs for power voltages up to 2000V and floating ground applications when used in accordance with UL508A and NEC code requirements. (2) Two screws for lug to standoff fastening is provided. Copper and tin plated aluminum high strength alloy. Zinc plated steel slotted screws.

### Purchase list for 24S4-3-2000V-KIT

- (x1) 24S4-3 Body per kit project.
- (x2) 2000 volt insulator, per kit project. Two kits are needed to complete one full kit-project.





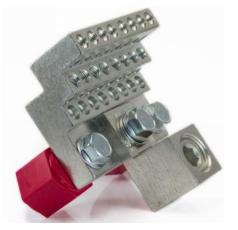
24S4-3 BODY

2000v insulator-KIT

See website for current pricing. https://lugsdirect.com



# 24S4-3-S350-600V-KIT



Multi-wire lug supplied with (1) Kitted 350 kcmil-6 AWG line lug and mounting screw & washer12A. Anti-rotation feature prevent twisting of lug when tightening mounting screw or wire binding screw.

(24) twenty four 4-14 wire holes lug for power distribution, power collection, structure grounding, floating ground or neutral bar applications.

UL486 ZMVV Listed, UL508A SA1.1 Listed category, and CSA Certified. (2) Two mounting bolt holes with clearance for ¼" full threaded bolts and threaded for 5/16 UNC bolts.



After customer assembly of line lug

Insulated using (2) two UL508A List SA1.1 category QEUY2 Recognized standoffs for power voltages up to 600V and floating ground applications when used in accordance with UL508A and NEC code requirements. (2) Two screws for lug to standoff fastening is provided. Copper and tin plated aluminum high strength alloy. Zinc plated steel slotted screws.

#### Purchase list for 24S4-3-S350-600V-KIT

- (x1) 24S4-3 Body per kit project.
- (x1) S350-Kit, per kit project.
- (x2) 600 Volt Insulator kits, per kit project.







24S4-3 BODY

600v insulator-KITS

See website for current pricing. https://lugsdirect.com



# 24S4-3-S350-2000V-KIT



After customer assembly of line lug

Multi-wire with (2) two SA1.1 category QEUY2 2000 volt standoffs. (24) twenty four 4-14 wire holes lug for power distribution, power collection, structure grounding, floating ground or neutral bar applications.

UL486 ZMVV Listed, UL508A SA1.1 Listed category, and CSA Certified. (2) Two mounting bolt holes with clearance for ¼" full threaded bolts and threaded for 5/16 UNC bolts.



Parts sold separately

Insulated using (2) two UL508A List SA1.1 category QEUY2 Recognized standoffs for

power voltages up to 2000V and floating ground applications when used in accordance with UL508A and NEC code requirements. (2) Two screws for lug to standoff fastening is provided. Copper and tin plated aluminum high strength alloy. Zinc plated steel slotted screws.

#### Purchase list for 24S4-3-S350-2000V-KIT

- (x1) 24S4-3 Body per kit project.
- (x1) S350-Kit, per kit project.
- (x2) 2000 Volt Insulator kits, per kit project.





24S4-3 BODY

S350-KIT

600v insulator-KITS

See website for current pricing. https://lugsdirect.com



### 36S4-3-S350-KIT



After customer assembly of line lug

Multi-wire lug supplied with (1) Kitted 350 kcmil-6 AWG line lug and mounting screw & washer. Anti-rotation feature prevent twisting of lug when tightening mounting screw or wire binding screw.

(36) thirty six 4-14 wire holes lug for power distribution, power collection, structure grounding, floating ground or neutral bar applications.



Parts sold separately

UL486 ZMVV Listed, UL508A SA1.1 Listed category, and CSA

Certified. (2) Two mounting bolt holes with clearance for ¼" full threaded bolts and threaded for 5/16 UNC bolts.

May be bus mounted, bare panel case, or bare chassis mounted or insulated using optional UL508A List SA1.1 category QEUY2 Recognized standoffs for power voltages up to 2000V and floating ground applications when used in accordance with UL508A and NEC code requirements. Copper and tin plated aluminum high strength alloy. Zinc plated steel slotted screw.

#### Purchase list for 36S4-3-S350-KIT

- (x1) 36S4-3 Body per kit project.
- (x1) S350-Kit, per kit project.





S350-KIT

36S4-3 BODY



# 36S4-3-600V-KIT



After customer assembly of standoffs

Multi-wire lug with (2) two SA1.1 category QEUY2 600 volt standoffs. (36) thirty six 4-14 wire holes lug for power distribution, power collection, structure grounding, floating ground or neutral bar applications.

UL486 ZMVV Listed, UL508A SA1.1 Listed category, and CSA Certified. (2) Two mounting bolt holes with clearance for ¼" full threaded bolts and threaded for 5/16 UNC bolts.



Parts sold separately

Insulated using (2) two UL508A List SA1.1 category QEUY2 Recognized standoffs for power voltages up to 600V and floating ground applications when used in accordance with UL508A and NEC code requirements. (1) One screw for standoff fastening is provided. Copper and tin plated aluminum high strength alloy. Zinc plated steel slotted screw.

### Purchase list for 36S4-3-600V-KIT

- (x1) 36S4-3 Body per kit project.
- (x2) 600v-Kit, per kit project.



36S4-3 BODY

600v insulator-KITS

See website for current pricing. https://lugsdirect.com



# 36S4-3-2000V-KIT



After customer assembly of standoffs

Multi-wire lug with (2) two SA1.1 category QEUY2 1500 volt standoffs. (36) thirty six 4-14 wire holes lug for power distribution, power collection, structure grounding, floating ground or neutral bar applications.

UL486 ZMVV Listed, UL508A SA1.1 Listed category, and CSA Certified. (2) Two mounting bolt holes with clearance for ¼" full threaded bolts and threaded for 5/16 UNC bolts.



Parts sold separately

Insulated using (2) two UL508A List SA1.1 category QEUY2 Recognized standoffs for power voltages up to 2000V and floating ground applications when used in accordance with UL508A and NEC code requirements. (1) One screw for standoff fastening is provided. Copper and tin plated aluminum high strength alloy. Zinc plated steel slotted screw.

### Purchase list for 36S4-3-2000V-KIT

- (x1) 36S4-3 Body per kit project.
- (x2) 2000V-Kit, per kit project.



36S4-3 BODY

2000v insulator-KITS

See website for current pricing. https://lugsdirect.com



### 36S4-3-S350-600V-KIT



After customer assembly of line lug and standoffs

Multi-wire supplied with (1) Kitted 350 kcmil-6 AWG line lug and mounting screw & washer. Anti-rotation feature prevent twisting of lug when tightening mounting screw or wire binding screw.

(36) thirty six 4-14 wire holes lug for power distribution, power collection, structure grounding, floating ground or neutral bar applications.

UL486 ZMVV Listed, UL508A SA1.1 Listed category, and CSA Certified. (2) Two mounting bolt holes with clearance for  $\frac{1}{4}$ "

full threaded bolts and threaded for 5/16 UNC bolts.



Parts sold separately

Insulated using (2) two UL508A List SA1.1 category QEUY2 Recognized standoffs for power voltages up to 600V and floating ground applications when used in accordance with UL508A and NEC code requirements. (1) One screw for standoff fastening is provided. Copper and tin plated aluminum high strength alloy. Zinc plated steel slotted screw.

### Purchase list for 36S4-3-S350-600V-KIT

- (x1) 36S4-3 Body per kit project.
- (x1) S350-Kit, per kit project.
- (X2) 600V insulators, per kitted project.

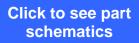




36S4-3 BODY

600v insulator-KITS

S350-KITS





# 36S4-3-S350-2000V-KIT



After customer assembly of line lug and standoffs

Multi-wire supplied with (1) Kitted 350 kcmil-6 AWG line lug and mounting screw & washer. Anti-rotation feature prevent twisting of lug when tightening mounting screw or wire binding screw.

(36) thirty six 4-14 wire holes lug for power distribution, power collection, structure grounding, floating ground or neutral bar applications.

UL486 ZMVV Listed, UL508A SA1.1 Listed category, and CSA Certified. (2) Two mounting bolt holes with clearance for  $\frac{1}{4}$ "



Parts sold separately

full threaded bolts and threaded for 5/16 UNC bolts.

Insulated using (2) two UL508A List SA1.1 category QEUY2 Recognized standoffs for power voltages up to 2000V and floating ground applications when used in accordance with UL508A and NEC code requirements. (1) One screw per standoff fastening is provided. Copper and tin plated aluminum high strength alloy. Zinc plated steel slotted screw.

### Purchase list for 36S4-3-S350-2000V-KIT

- (x1) 36S4-3 Body per kit project.
- (x2) 2000V-Kit, per kit project.
- (X1) S350-KIT, per kitted project.







S350-KIT

36S4-3 BODY

2000v insulator-KITS



Click to see part schematics

# 36S4-3-(x2)S350-600V-KIT



After customer assembly of line lugs and standoffs

Multi-wire supplied with (2) kitted 350 kcmil-6 AWG line lug and mounting screw & washer. Anti-rotation feature prevent twisting of lug when tightening mounting screw or wire binding screw.

(36) thirty six 4-14 wire holes lug for power distribution, power collection, structure grounding, floating ground or neutral bar applications.



Parts sold separately

UL486 ZMVV Listed, UL508A SA1.1 Listed category, and CSA

Certified. (2) Two mounting bolt holes with clearance for  $\frac{1}{2}$ " full threaded bolts and threaded for 5/16 UNC bolts.

Insulated using (2) two UL508A List SA1.1 category QEUY2 Recognized standoffs for power voltages up to 2000V and floating ground applications when used in accordance with UL508A and NEC code requirements. (1) One screw per standoff fastening is provided. Copper and tin plated aluminum high strength alloy. Zinc plated steel slotted screw.

### Purchase list for 36S4-3-(x2)S350-600V-KIT

- (x1) 36S4-3 Body per kit project.
- (x2) 600V-Kit, per kit project.
- (X2) S350-KIT, per kitted project.



See website for current pricing. https://lugsdirect.com



# 36S4-3-(x2)S350-2000V-KIT



After customer assembly of line lugs and standoffs

Multi-wire supplied with (2) kitted 350 kcmil-6 AWG line lugs and mounting screws & washers. Anti-rotation feature prevent twisting of lug when tightening mounting screw or wire binding screw.

(36) thirty six 4-14 wire holes lug for power distribution, power collection, structure grounding, floating ground or neutral bar applications.

UL486 ZMVV Listed, UL508A SA1.1 Listed category, and CSA Certified. (2) Two mounting bolt holes with clearance for ¼" full

threaded bolts and threaded for 5/16 UNC bolts.

Insulated using (2) two UL508A List SA1.1 category QEUY2 Recognized standoffs for power voltages up to 2000V and floating ground applications when used in accordance with UL508A and NEC code requirements. (1) One screw per standoff fastening is provided. Copper and tin plated aluminum high strength alloy. Zinc plated steel slotted screw.



Parts sold separately

### Purchase list for 36S4-3-(x2)S350-2000V-KIT

- (x1) 36S4-3 Body per kit project.
- (x2) 2000V-Kit, per kit project.
- (X2) S350-KIT, per kitted project.







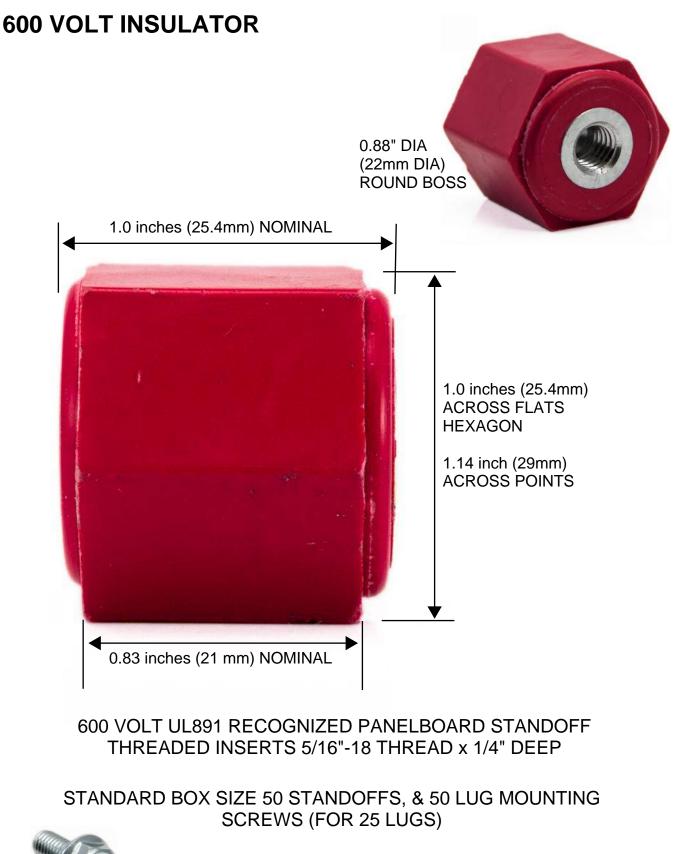
S350-KIT

36S4-3 BODY

2000v insulator-KITS

Click to see part schematics





KITTED WITH (1) STANDOFF & (1) 5/16-18-HEX WASHER HEAD CAP BOLT SUITABLE FOR 36S4-3 OR 24S4-3 POWER DISTRIBUTION / GROUNDING BLOCK LUG (2) REQUIRED FOR EACH LUG ASSEMBLY



#### 2000 VOLT UL891 RECOGNIZED PANELBOARD STANDOFF THREADED INSERTS 5/16"-18 THREAD x 1/4" DEEP CSA CERFTIFIED

### STANDARD BOX SIZE 50 STANDOFFS, & 50 LUG MOUNTING SCREWS (FOR 25 LUGS)

KITTED WITH (1) STANDOFF, (1) 5/16 SAE FLAT WASHER STEEL ZINC PLATED RoHS, and (1) 5/16-18-HEX WASHER HEAD CAP BOLT SUITABLE FOR 36S4-3 OR 24S4-3 POWER DISTRIBUTION / GROUNDING BLOCK LUG TWO (2) REQUIRED FOR EACH LUG ASSEMBLY

