



Mechanical Connectors

Mechanical Lugs Verses Compression Lugs Connector Comparison Chart

The variety of connectors available can be broken down into two general categories:

- Mechanical lugs
- Compression lugs

The following chart has been prepared in an effort to clarify the difference between these two categories.

Mechanical Lugs vs Compression Lugs			
Mechanical Lugs		Compression Lugs	
<p><u>SLU-225-1</u> <u>LA-250-1</u></p>		<p><u>BLU-1S-1</u> <u>BLU-035D-1</u></p>	
Range taking and non-range taking. For pipe, cable, bar shapes etc.		Range taking and non-range taking. For cable conductors only.	
Many designs are universal for copper and aluminum.		Separate designs required for aluminum, copper, or aluminum to copper.	
Salvageable. Conductors can be removed and replaced if necessary. Wiring changes easily made.		Not salvageable. Conductor and connector must be cut off and scrapped if necessary.	
Short runs and specials easily handled by manufacturer with better delivery.		Non-standard designs and modifications may be difficult to supply.	
Taping depends on design.		Easily taped.	
Installed cost comparable on small jobs and higher on large volume jobs.		Installed cost generally lower, particularly when large quantities are involved.	
No special tools to install. Can use screwdriver, pliers, or wrench.		Special tools and dies required. If wrong tool or die is used, poor joint results.	



Mechanical Connectors

Lug Tongue Connections

The tongue of a compression or a mechanical lug is, basically, a bus bar that connects to another bus bar.

The illustration to the right shows a typical bar connection and the type of hardware used.

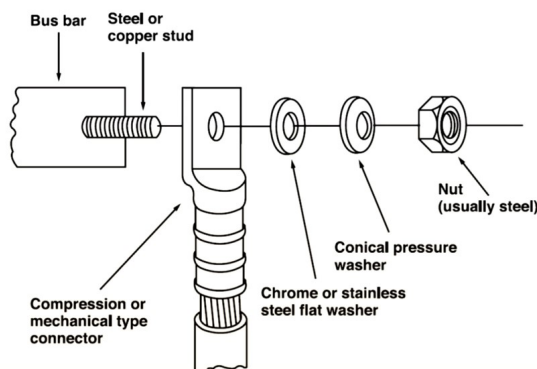


Table 1 to the right shows the recommended tightening torques for silicon bronze, stainless steel, galvanized steel, and lubricated aluminum alloy hardware.

NOTE: Torque values presently recommended by NEMA-CCI 2018 specification.

Table 1 - Tightening Torques

Bolt Diameter	Nominal Torque Values			
	Silicon Bronze, Galvanized, or Stainless Steel		Aluminum Alloy (Lubricated)	
	ft-lbs	inch-lbs	ft-lbs	inch-lbs
1/4	7	80	—	—
5/16	15	180	—	—
3/8	20	240	14	168
1/2	40	480	25	300
5/8	55	660	40	480
3/4	87	1050	54	650

For optimum efficiency, it is necessary that the correct bolt, nut, and washer combination be used with the correct combination of conductor materials. Table 2 shows acceptable methods of joining different combinations of bus bar. Where different combinations of metals are being joined, a follow-up device such as a conical pressure washer is usually recommended if one, or both, bus materials are soft drawn aluminum. If both bars are hard drawn,

large flat washers will suffice regardless of the bolt materials. Other considerations which should be taken into account when selecting hardware are corrosion and vibration. For example, if severe corrosion is anticipated, non-corrosive materials such as stainless steel or silicon bronze, should be selected in preference to galvanized steel. If vibration is anticipated, the use of locking washers should be considered.

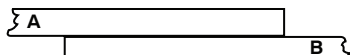


Table 2 - Joining Bus Bar Methods

If "A" bar is	Copper	Aluminum	Steel	Aluminum	Steel
And if "B" bar is	Copper	Copper	Copper	Aluminum	Aluminum
Hard Drawn Bus such as aluminum alloy 	(1) Silicon Bronze (2) Stainless Steel	(1) Silicon Bronze (2) Aluminum (3) Stainless Steel	(1) Silicon Bronze (2) Stainless Steel	(1) Aluminum (2) Stainless Steel (3) Silicon Bronze, Plated	(1) Aluminum (2) Stainless Steel
Soft Drawn Bus such as EC-H13 Aluminum 	(1) Silicon Bronze (2) Stainless Steel	(1) Silicon Bronze (2) Aluminum (3) Stainless Steel (4) Conical Pressure Washer (Plated or Stainless Steel)	(1) Silicon Bronze (2) Stainless Steel	(1) Aluminum (2) Stainless Steel (3) Silicon Bronze, Plated (4) Conical Pressure Washer (Plated or Stainless Steel)	(1) Aluminum (2) Stainless Steel (3) Conical Pressure Washer (Plated or Stainless Steel)

"(1)" denotes preferred hardware usage.



Mechanical Connectors

1-Opening Aluminum Dual-Rated Mechanical Lugs LA Series

Overview

The LA series is a heavy-duty high-strength aluminum dual-rated connector that makes a reliable electrical connection to either an aluminum or copper conductor. These lugs have a single opening and are designed for easy installation while maintaining a low resistance high strength connection.

Features

- Use with copper or aluminum conductors
- Manufactured from high strength aluminum alloy extrusion
- Electro-tin plated to ensure minimum contact resistance and corrosion protection when used with copper wire
- Connectors are rated for 600V, 90°C [194°F] applications
- The use of oxide inhibitor is recommended for all aluminum terminations



LA-250-1



1-Opening Aluminum Dual-Rated Mechanical Lugs - LA Series

Part Number	Price	Qty	Type	Voltage Rating	Number of Openings	Conductor Material and Conductor Range	Tightening Torque	Conductor Bolt Style	Number of Mounting Holes	Mounting Bolt Size	Material	Drawing Link
LA-0-1	\$1.25	1	Box	600V	1	Copper (1) 14-1/0 AWG (2) 14-4 AWG Aluminum (1) 12-1/0 AWG (2) 12-4 AWG	CU: 50 lb•in AL: 35 lb•in	Slotted set screw	1	1/4in	Tin-plated aluminum	PDF
LA-2-1	\$0.75					Copper (1) 14-2 AWG (2) 14-10 AWG Aluminum (1) 12-2 AWG (2) 10-12 AWG	45 lb•in	Slotted set screw		1/4in		PDF
LA-2/0-1	\$1.25					Copper (1) 14-2/0 AWG Aluminum (1) 8-2/0 AWG	120 lb•in	3/16in hex		1/4in		PDF
LA-250-1	\$2.75					Copper (1) 6 AWG-250 MCM Aluminum (1) 6 AWG-250 MCM	275 lb•in	5/16in hex		5/16in		PDF
LA-350-1	\$4.50					Copper (1) 6 AWG-350 MCM Aluminum (1) 6 AWG-350 MCM	275 lb•in	5/16in hex		3/8in		PDF
LA-500-1	\$6.75					Copper (1) 4 AWG-500 MCM Aluminum (1) 4 AWG-500 MCM	375 lb•in	3/8in hex		3/8in		PDF
LA-6-1	\$0.50					Copper (1) 14-4 AWG Aluminum (1) 8-4 AWG	35 lb•in	Slotted set screw		1/4in		PDF
LA-600-1	\$8.50					Copper (1) 2 AWG-600 MCM Aluminum (1) 2 AWG-600 MCM	500 lb•in	1/2in hex		3/8in		PDF
LA-800-1	\$12.25					Copper (1) 300-800 MCM Aluminum (1) 300-800 MCM	500 lb•in	1/2in hex		5/8in		PDF

Note: Use same conductor type, Copper or Aluminum, per opening. Do not mix conductor type in an opening.

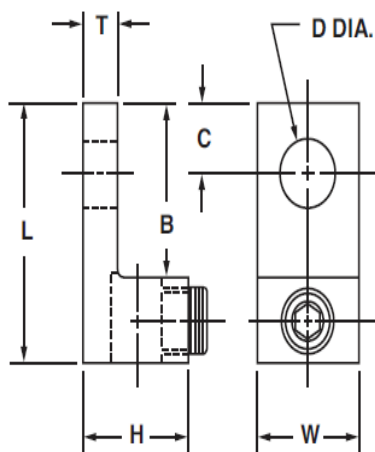


PennUnion™ Mechanical Connectors

1-Opening Aluminum Dual-Rated Mechanical Lugs LA Series

1-Opening Aluminum Dual-Rated Mechanical Lugs - LA Series Dimensions

Part Number	Approximate Dimensions in [mm]						
	L	W	H	T	B	C	D (Dia.)
<u>LA-0-1</u>	1.46 [37.08]	0.63 [16.00]	0.79 [20.26]	0.19 [4.82]	0.84 [21.33]	0.44 [11.17]	0.27 [6.85]
<u>LA-2-1</u>	1.16 [29.46]	0.50 [12.70]	0.55 [13.97]	0.11 [2.79]	0.69 [17.52]	0.31 [7.87]	0.27 [6.85]
<u>LA-2/0-1</u>	1.46 [37.08]	0.63 [16.00]	0.79 [20.26]	0.19 [4.82]	0.84 [21.33]	0.44 [11.17]	0.27 [6.85]
<u>LA-250-1</u>	2.00 [50.80]	1.00 [25.40]	1.12 [28.44]	0.25 [6.35]	1.00 [25.40]	0.47 [11.93]	0.33 [8.38]
<u>LA-350-1</u>	2.25 [57.15]	1.13 [28.70]	1.25 [31.75]	0.25 [6.35]	1.13 [28.70]	0.50 [12.70]	0.41 [10.41]
<u>LA-500-1</u>	2.81 [71.37]	1.50 [38.10]	1.57 [39.87]	0.31 [7.87]	1.59 [40.38]	0.87 [22.09]	0.41 [10.41]
<u>LA-6-1</u>	1.06 [26.92]	0.50 [12.70]	0.50 [12.70]	0.09 [2.28]	0.68 [17.27]	0.25 [6.35]	0.27 [6.85]
<u>LA-600-1</u>	3.19 [81.02]	1.50 [38.10]	1.57 [39.87]	0.44 [11.17]	1.81 [45.97]	0.87 [22.09]	0.41 [10.41]
<u>LA-800-1</u>	3.37 [85.59]	1.75 [44.45]	1.94 [49.27]	0.50 [12.70]	1.75 [44.45]	0.87 [22.09]	0.66 [16.76]





Mechanical Connectors

2-Opening Aluminum Dual-Rated Mechanical Lugs L2A Series

Overview

The L2A series is a heavy-duty high strength aluminum dual-rated connector that makes a reliable electrical connection to either an aluminum or copper conductor. These lugs have 2 openings and are designed for easy installation while maintaining a low resistance high strength connection.

Features

- For use with copper or aluminum conductors
- Manufactured from high strength aluminum alloy extrusion
- Electro-tin plated to ensure minimum contact resistance and corrosion protection
- Connectors are rated for 600V, 90°C [194°F] applications
- The use of oxide inhibitor is recommended for all aluminum terminations



L2A-250-1



2-Opening Aluminum Dual-Rated Mechanical Lugs - L2A Series

Part Number	Price	Qty	Type	Voltage Rating	Number of Openings	Conductor Material and Conductor Range	Tightening Torque	Conductor Bolt Size	Number of Mounting Holes	Mounting Bolt Size	Material	Drawing Link
<u>L2A-0-1</u>	\$2.00	1	Box	600V	2	Copper (1) 14 to 1/0 AWG Aluminum (1) 8 to 1/0 AWG	40 lb•in	Slotted set screw	1	1/4in	Aluminum-tin plated	<u>PDF</u>
<u>L2A-2/0-1</u>	\$2.25					Copper (1) 14 to 2/0 AWG Aluminum (1) 8 to 2/0 AWG	120 lb•in	3/16in hex		1/4in		<u>PDF</u>
<u>L2A-250-1</u>	\$5.75					Copper (1) 6 AWG-250 MCM Aluminum (1) 6 AWG-250 MCM	225 lb•in	5/16in hex		3/8in		<u>PDF</u>
<u>L2A-350-1</u>	\$7.75					Copper (1) 6 AWG-350 MCM Aluminum (1) 6 AWG-350 MCM	225 lb•in	5/16in hex		1/2in		<u>PDF</u>
<u>L2A-600-1</u>	\$13.25					Copper (1) 2 AWG-600 MCM Aluminum (1) 2 AWG-600 MCM	400 lb•in	1/2in hex		1/2in		<u>PDF</u>

Note: Use same conductor type, Copper or Aluminum, per opening. Do not mix conductor type in an opening.

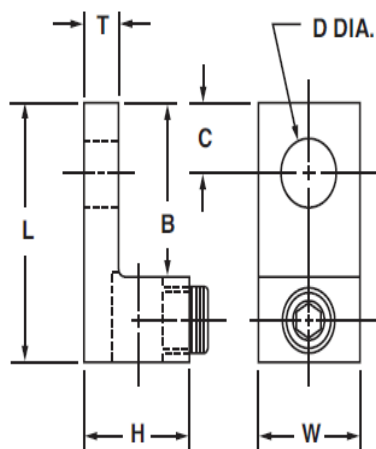


PennUnion™ Mechanical Connectors

2-Opening Aluminum Dual-Rated Mechanical Lugs L2A Series

2-Opening Aluminum Dual-Rated Mechanical Lugs - L2A Series Dimensions

Part Number	Approximate Dimensions in [mm]						
	L	W1	H	T	B	C	D (Dia.)
<u>L2A-0-1</u>	1.46 [37.08]	1.22 [30.98]	0.79 [20.06]	0.19 [4.82]	0.84 [21.33]	0.44 [11.17]	0.27 [6.85]
<u>L2A-2/0-1</u>	1.46 [37.08]	1.25 [31.75]	0.79 [20.06]	0.19 [4.82]	0.84 [21.33]	0.42 [10.66]	0.27 [6.85]
<u>L2A-250-1</u>	2.56 [65.02]	1.66 [42.16]	1.19 [30.22]	0.25 [6.35]	1.56 [39.62]	0.87 [22.09]	0.39 [9.90]
<u>L2A-350-1</u>	2.87 [72.89]	1.91 [48.54]	1.22 [30.98]	0.25 [6.35]	1.75 [44.45]	0.87 [22.09]	0.56 [14.22]
<u>L2A-600-1</u>	3.19 [81.02]	2.41 [61.12]	1.57 [39.87]	0.44 [11.17]	1.81 [45.97]	0.63 [16.00]	0.53 [13.46]





Mechanical Connectors

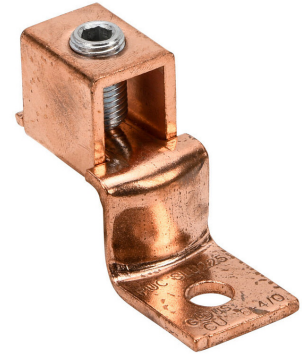
Copper Offset Tongue Mechanical Lugs SAU & SLU Series

Overview

The SAU and SLU series is copper mechanical lug with an offset tongue. The concave pressure bar and V-bottom collar design assure positive contact and a reliable electrical connection to the copper conductor. These lugs have a single opening and are designed for easy installation for a wide variety of industrial applications.

Features

- Manufactured from electrolytic copper for maximum conductivity and strength
- Unique design of the concave pressure bar and V-bottom collar assures positive contact and firm, permanent grip
- Use with copper conductors only
- Offset tongue for joining a wide range of cable to equipment pads or bars
- Plated steel set screws resist corrosion



SLU-225-1



Copper Offset Tongue Mechanical Lugs - SAU & SLU Series

Part Number	Price	Qty	Type	Amperage Rating	Number of Openings	Conductor Material and Conductor Range	Tightening Torque	Conductor Bolt Style	Number of Mounting Holes	Mounting Bolt Size	Material	Drawing Link
SAU-70-1	\$2.00	1	Offset tongue	70A	1	Copper (1) 14 AWG solid (1) 4 AWG stranded	14-10 AWG: 20 lb•in 8 AWG: 25 lb•in 6-4 AWG:35 lb•in	Slotted set screw	1	1/4in	Copper-electrolytic	PDF
SLU-125-1	\$3.50			125A		Copper (1) 8 AWG solid (1) 1/0 AWG stranded	120 lb•in	3/16in hex		1/4in		PDF
SLU-175-1	\$5.50			175A		Copper (1) 4 AWG stranded (1) 3/0 AWG stranded	120 lb•in			3/8in		PDF
SLU-225-1	\$10.00			225A		Copper (1) 6 AWG stranded (1) 4/0 AWG stranded	150 lb•in	7/32in hex		5/16in		PDF
SLU-35-1	\$1.25			35-50A		Copper (1) 14 AWG solid (1) 6 AWG stranded	14-10 AWG: 20 lb•in 8 AWG: 25 lb•in 6 AWG: 35 lb•in	Slotted pan head		#10		PDF
SLU-70-1	\$2.25			70-90A		Copper (1) 8 AWG solid (1) 2 AWG stranded	8 AWG: 40 lb•in 6-4 AWG: 45 lb•in 3 AWG: 50 lb•in 2 AWG:50 lb•in	Slotted set screw		1/4in		PDF

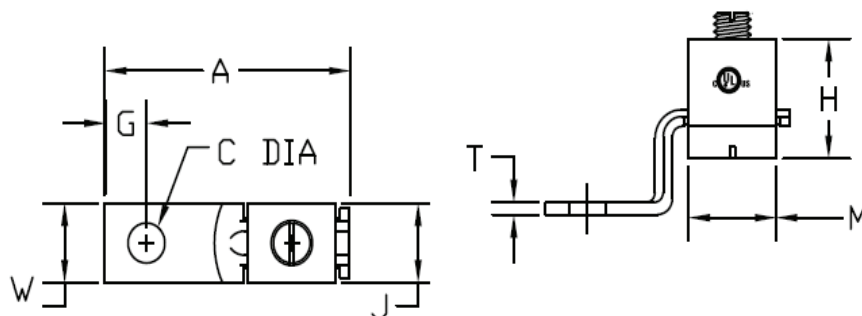


PennUnion™ Mechanical Connectors

Copper Offset Tongue Mechanical Lugs SAU & SLU Series

Copper Offset Tongue Mechanical Lugs - SAU & SLU Series Dimensions

Part Number	Approximate Dimensions in [mm]							
	A	W	G	C (Dia.)	T	M	H	J
<u>SAU-70-1</u>	1.38 [35.05]	0.50 [12.70]	0.26 [6.60]	0.27 [6.85]	0.08 [2.03]	0.43 [10.92]	0.55 [13.97]	0.39 [9.90]
<u>SLU-125-1</u>	1.95 [49.53]	0.63 [16.00]	0.33 [8.38]	0.27 [6.85]	0.12 [3.04]	0.60 [15.24]	0.82 [20.82]	0.63 [16.00]
<u>SLU-175-1</u>	2.20 [55.88]	0.75 [19.05]	0.43 [10.92]	0.41 [10.41]	0.12 [3.04]	0.73 [18.54]	1.04 [26.41]	0.71 [18.03]
<u>SLU-225-1</u>	2.62 [66.54]	0.98 [24.89]	0.48 [12.19]	0.35 [8.89]	0.12 [3.04]	0.98 [24.89]	1.16 [29.46]	0.77 [19.55]
<u>SLU-35-1</u>	1.17 [29.71]	0.38 [9.65]	0.21 [5.33]	0.20 [5.08]	0.06 [1.52]	0.43 [10.92]	0.48 [12.19]	0.31 [7.87]
<u>SLU-70-1</u>	1.55 [39.37]	0.50 [12.70]	0.26 [6.60]	0.27 [6.85]	0.08 [2.03]	0.49 [12.44]	0.64 [16.25]	0.47 [11.93]





Mechanical Connectors

Copper Straight Tongue Mechanical Lugs SAS & SLS Series

Overview

The SAS and SLS series are copper mechanical lugs with a compact straight tongue design. These lugs have a single opening and are designed for easy installation for a wide variety of industrial applications.

Features

- Manufactured from electrolytic copper for maximum conductivity and strength
- For use in power and grounding applications
- Use with copper conductors only
- Plated steel set screws resist corrosion
- UL 467 listed and UL 486A-B listed



SAS-70-1

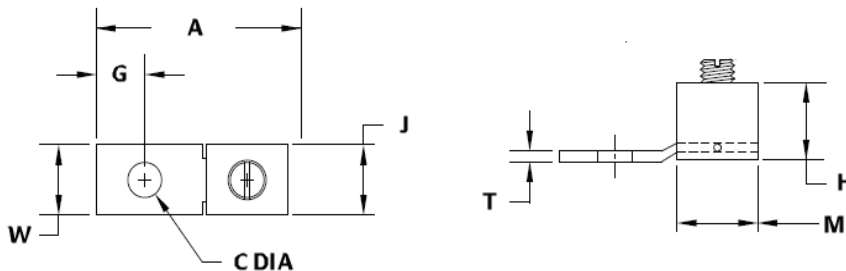


Copper Straight Tongue Mechanical Lugs - SAS & SLS Series

Part Number	Price	Qty	Type	Amperage Rating	Number of Openings	Conductor Material and Conductor Range	Tightening Torque	Conductor Bolt Style	Number of Mounting Holes	Mounting Bolt Size	Material	Drawing Link
SAS-70-1	\$1.75	1	Straight tongue	70A	1	Copper (1) 14-4 AWG	14-10 AWG: 20 lb•in 8 AWG: 25 lb•in 6-4 AWG: 35 lb•in	Slotted set screw	1	1/4in	Copper-electrolytic	PDF
SLS-35-1	\$1.50			35-50A		Copper (1) 14-6 AWG	14-10 AWG: 13 lb•in 8 AWG: 25 lb•in 6 AWG: 25 lb•in	Slotted pan head		#10		PDF

Copper Straight Tongue Mechanical Lugs - SAS & SLS Series Dimensions

Part Number	Approximate Dimensions in [mm]							
	A	W	G	C (Dia.)	T	M	H	J
SAS-70-1	1.26 [32.04]	0.50 [12.70]	0.38 [9.65]	0.27 [6.85]	0.08 [2.03]	0.49 [12.44]	0.54 [13.71]	0.44 [11.17]
SLS-35-1	1.00 [25.40]	0.37 [9.39]	0.24 [6.09]	0.20 [5.08]	0.06 [1.52]	0.37 [9.39]	0.47 [11.93]	0.34 [8.63]





Mechanical Connectors

Aluminum Dual-Rated Panelboard Mechanical Lugs PB Series

Overview

The PB series is a heavy-duty high strength aluminum dual-rated connector that makes a reliable electrical connection to either an aluminum or copper conductor. These lugs feature 2, 3, or 4 openings and a stacked space saving design for easy installation while maintaining a low resistance high strength connection.

Features

- Use with copper or aluminum conductors
- Space saving design allows for 2, 3, or 4 openings
- Manufactured from high strength aluminum alloy extrusion
- Electro-tin plated to ensure minimum contact resistance and corrosion protection when used with copper wire
- Rated for 600V, 90°C [194°F] applications
- The use of oxide inhibitor is recommended for all aluminum terminations



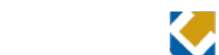
PB3-600D1-1



Aluminum Dual-Rated Panelboard Mechanical Lugs - PB Series

Part Number	Price	Qty	Type	Voltage Rating	Number of Openings	Conductor Material and Conductor Range	Tightening Torque	Conductor Bolt Style	Number of Mounting Holes	Mounting Bolt Size	Material	Drawing Link
<u>PB2-350S-1</u>	\$21.50	1	Panelboard	600V	2	Copper (1) 6 AWG-350 MCM Aluminum (1) 6 AWG-350 MCM	375 lb•in	5/16 in hex	1	5/16in	Aluminum-tin plated	<u>PDF</u>
<u>PB2-600D1-1</u>	\$41.50				2	Copper (1) 2 AWG-600 MCM Aluminum (1) 2 AWG-600 MCM	500 lb•in		2	<u>PDF</u>		
<u>PB2-750D1-1</u>	\$47.50				2	Copper (1) 1/0 AWG-750 MCM Aluminum (1) 1/0 AWG-750 MCM	620 lb•in		2	<u>PDF</u>		
<u>PB3-600D1-1</u>	\$59.50				3	Copper (1) 2 AWG-600 MCM Aluminum (1) 2 AWG-600 MCM	500 lb•in		2	3/8in		<u>PDF</u>
<u>PB3-750D1-1</u>	\$72.00				3	Copper (1) 1/0 AWG-750 MCM Aluminum (1) 1/0 AWG-750 MCM	620 lb•in		2			<u>PDF</u>
<u>PB4-600D1-1</u>	\$59.50				4	Copper (1) 2 AWG-600 MCM Aluminum (1) 2 AWG-600 MCM	500 lb•in		2			<u>PDF</u>
<u>PB4-750D1-1</u>	\$73.75				4	Copper (1) 1/0 AWG-750 MCM Aluminum (1) 1/0 AWG-750 MCM	620 lb•in		2			<u>PDF</u>

Note: Use same conductor type, Copper or Aluminum, per opening. Do not mix conductor type in an opening.



PennUnion™ Mechanical Connectors

Aluminum Dual-Rated Panelboard Mechanical Lugs PB Series

Aluminum Dual-Rated Panelboard Mechanical Lugs - PB Series Dimensions

Part Number	Figure Number	Approximate Dimensions in [mm]					
		L	W	H	T	C	E
<u>PB2-350S-1</u>	1	2.99 [75.94]	1.00 [25.40]	2.01 [51.05]	0.31 [7.87]	0.39 [9.90]	—
<u>PB2-600D1-1</u>	2	4.94 [125.47]	1.50 [38.10]	2.99 [75.94]	0.76 [19.30]	0.39 [9.90]	1.38 [35.05]
<u>PB2-750D1-1</u>	2	4.94 [125.47]	1.57 [39.87]	2.99 [75.94]	0.76 [19.30]	0.39 [9.90]	1.38 [35.05]
<u>PB3-600D1-1</u>	3	4.94 [125.47]	2.68 [68.07]	2.99 [75.94]	0.76 [19.30]	0.39 [9.90]	1.38 [35.05]
<u>PB3-750D1-1</u>	3	4.94 [125.47]	2.83 [71.88]	2.99 [75.94]	0.76 [19.30]	0.39 [9.90]	1.38 [35.05]
<u>PB4-600D1-1</u>	4	4.94 [125.47]	2.68 [68.07]	2.99 [75.94]	0.76 [19.30]	0.39 [9.90]	1.38 [35.05]
<u>PB4-750D1-1</u>	4	4.94 [125.47]	2.83 [71.88]	2.99 [75.94]	0.76 [19.30]	0.39 [9.90]	1.38 [35.05]

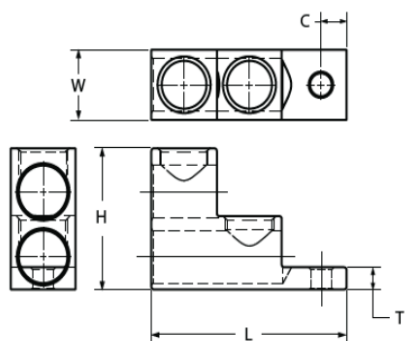


FIGURE 1

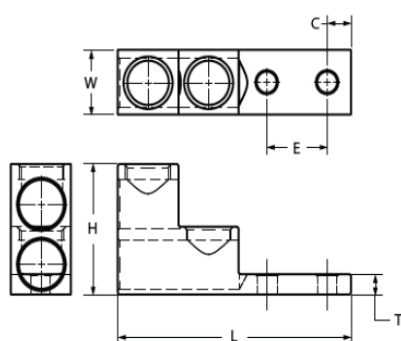


FIGURE 2

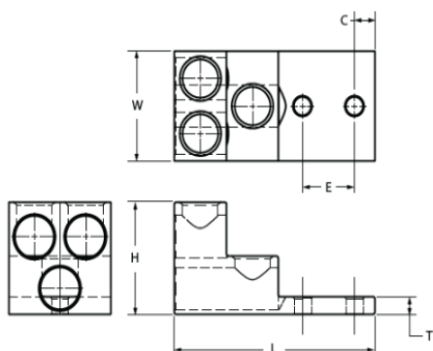


FIGURE 3

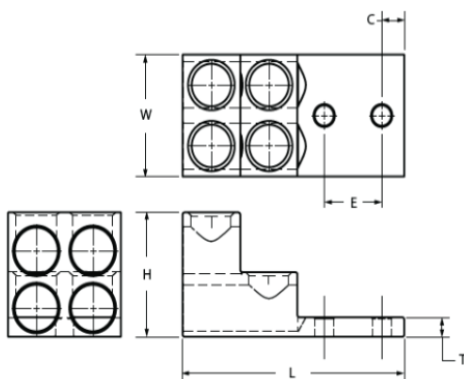


FIGURE 4



Mechanical Connectors

Aluminum Neutral Bars NA Series

Overview

The NA series aluminum neutral bars are manufactured from high strength aluminum alloy and tin plated to maintain a low resistance high strength dual-rated connection. These neutral bars are designed for easy installation, can have up to 20 circuits on a single bar, and can be used in a variety of neutral and grounding applications.

Features

- For use in neutral and grounding applications
- Manufactured from high strength aluminum alloy
- Tin plated
- Screws are made of mild steel and plated
- Dual-rated for copper or aluminum conductors
- UL 467 listed



NA-409-1



Aluminum Neutral Bars - NA Series									
Part Number	Price	Qty	Number of Openings	Number of Circuits	Mounting Hole Position	Conductor Material and Conductor Range	Tightening Torque	Material	Drawing Link
NA-401-1	\$1.00	1	3	2	2	Copper 14-4 AWG stranded 14-8 AWG solid Aluminum 8-4 AWG stranded 12-8 AWG solid	Copper 14-8 AWG 20 lb•in 6-4 AWG 31 lb•in Aluminum 14-8 AWG 20 lb•in 6-4 AWG 31 lb•in	Tin-plated aluminum	PDF
NA-402-1	\$1.25		5	4	3				PDF
NA-403-1	\$1.50		6	5	3				PDF
NA-404-1	\$1.75		7	6	4				PDF
NA-405-1	\$1.50		6	4	1 and 4				PDF
NA-406-1	\$1.75		7	5	1 and 7				PDF
NA-407-1	\$1.75		7	5	2 and 6				PDF
NA-408-1	\$2.00		8	6	4 and 7				PDF
NA-409-1	\$2.25		9	7	3 and 7				PDF
NA-410-1	\$2.75		11	9	1 and 11				PDF
NA-411-1	\$3.00		12	10	1 and 12				PDF
NA-412-1	\$3.50		14	12	1 and 14				PDF
NA-413-1	\$4.25		17	15	1 and 17				PDF
NA-414-1	\$5.50		22	20	1 and 22				PDF
NA-416-1	\$4.25		12	10	3 and 11	Aluminum 8-2 AWG stranded 12-8 AWG solid	Aluminum 12-10 AWG 35 lb•in 8 AWG 40 lb•in 6-4 AWG 45 lb•in 2 AWG 50 lb•in		PDF
NA-417-1	\$3.25		3	2	2	Copper 14-2/0 AWG stranded 14-8 AWG solid	Copper 14-10 AWG 35 lb•in 8-2/0 AWG 120 lb•in		PDF
NA-418-1	\$5.50		5	3	2 and 4	Aluminum 8-2/0 AWG stranded 12-8 AWG solid	Aluminum 14-10 AWG 35 lb•in 8 AWG 50 lb•in 6-2/0 AWG 120 lb•in		PDF
NA-419-1	\$9.00		8	6	1 and 8				PDF

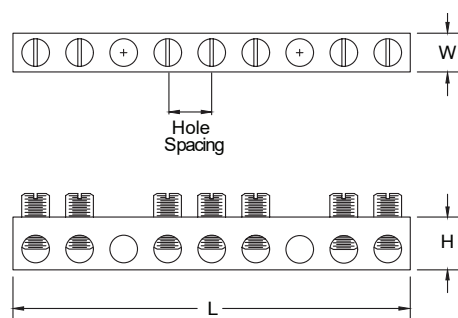
Note: Use same conductor type, Copper or Aluminum, per opening. Do not mix conductor type in an opening.



PennUnion™ Mechanical Connectors

Aluminum Neutral Bars NA Series

Aluminum Neutral Bars - NA Series Dimensions				
Part Number	Approximate Dimensions in [mm]			Hole Spacing
	L	W	H	
<u>NA-401-1</u>	0.95 [24.13]	0.33 [8.38]	0.44 [11.17]	0.31 [7.87]
<u>NA-402-1</u>	1.57 [39.87]	0.33 [8.38]	0.44 [11.17]	0.31 [7.87]
<u>NA-403-1</u>	1.88 [47.75]	0.33 [8.38]	0.44 [11.17]	0.31 [7.87]
<u>NA-404-1</u>	2.25 [57.15]	0.33 [8.38]	0.44 [11.17]	0.31 [7.87]
<u>NA-405-1</u>	1.88 [47.75]	0.33 [8.38]	0.44 [11.17]	0.31 [7.87]
<u>NA-406-1</u>	2.25 [57.15]	0.33 [8.38]	0.44 [11.17]	0.31 [7.87]
<u>NA-407-1</u>	2.25 [57.15]	0.33 [8.38]	0.44 [11.17]	0.31 [7.87]
<u>NA-408-1</u>	2.56 [65.02]	0.33 [8.38]	0.44 [11.17]	0.31 [7.87]
<u>NA-409-1</u>	2.87 [72.89]	0.33 [8.38]	0.44 [11.17]	0.31 [7.87]
<u>NA-410-1</u>	3.50 [88.90]	0.33 [8.38]	0.44 [11.17]	0.31 [7.87]
<u>NA-411-1</u>	3.81 [96.77]	0.33 [8.38]	0.44 [11.17]	0.31 [7.87]
<u>NA-412-1</u>	4.43 [112.52]	0.33 [8.38]	0.44 [11.17]	0.31 [7.87]
<u>NA-413-1</u>	5.37 [136.39]	0.33 [8.38]	0.44 [11.17]	0.31 [7.87]
<u>NA-414-1</u>	6.93 [176.02]	0.33 [8.38]	0.44 [11.17]	0.31 [7.87]
<u>NA-416-1</u>	4.83 [122.68]	0.38 [9.65]	0.50 [12.70]	0.40 [10.16]
<u>NA-417-1</u>	1.75 [44.45]	0.63 [16.00]	0.75 [19.05]	0.60 [15.24]
<u>NA-418-1</u>	2.95 [74.93]	0.63 [16.00]	0.75 [19.05]	0.60 [15.24]
<u>NA-419-1</u>	4.75 [120.65]	0.63 [16.00]	0.75 [19.05]	0.60 [15.24]





Mechanical Connectors

Copper Neutral Bars NC Series

Overview

The NC series copper neutral bars are manufactured from high strength copper. These neutral bars are designed for easy installation, can have up to 13 circuits on a single bar and can be used in a variety of neutral and grounding applications.

Features

- Manufactured from high strength copper
- For use in neutral and grounding applications
- Use with copper conductors only
- Screws are made of mild steel and plated
- UL 467 listed



NC-420-1



Copper Neutral Bars - NC Series									
Part Number	Price	Qty	Number of Openings	Number of Circuits	Mounting Hole Position	Conductor Material and Conductor Range	Tightening Torque	Material	Drawing Link
NC-420-1	\$4.00	1	6	4	1 and 6	Copper 14-4 AWG stranded 14-8 AWG solid	Copper 14-8 AWG 20 lb•in 6-4 AWG 31 lb•in	Copper	PDF
NC-421-1	\$4.50		7	5	1 and 7				PDF
NC-422-1	\$5.25		8	6	1 and 8				PDF
NC-423-1	\$9.00		14	12	1 and 14				PDF
NC-424-1	\$9.75		15	13	3 and 13				PDF
NC-425-1	\$9.75		15	13	6 and 11				PDF
NC-428-1	\$9.00		8	6	2 and 7	Copper 14-2 AWG stranded 14-8 AWG solid	Copper 14-8 AWG 20 lb•in 6-4 AWG 45 lb•in 2 AWG 50 lb•in		PDF

Copper Neutral Bars - NC Series Dimensions

Part Number	Approximate Dimensions in [mm]			Hole Spacing
	L	W	H	
NC-420-1	1.94 [49.27]	0.33 [8.38]	0.44 [11.17]	0.31 [7.87]
NC-421-1	2.25 [57.15]	0.33 [8.38]	0.44 [11.17]	0.31 [7.87]
NC-422-1	2.56 [65.02]	0.33 [8.38]	0.44 [11.17]	0.31 [7.87]
NC-423-1	4.43 [112.52]	0.33 [8.38]	0.44 [11.17]	0.31 [7.87]
NC-424-1	4.74 [120.39]	0.33 [8.38]	0.44 [11.17]	0.31 [7.87]
NC-425-1	4.74 [120.39]	0.33 [8.38]	0.44 [11.17]	0.31 [7.87]
NC-428-1	3.25 [82.55]	0.38 [9.65]	0.50 [12.70]	0.40 [10.16]

