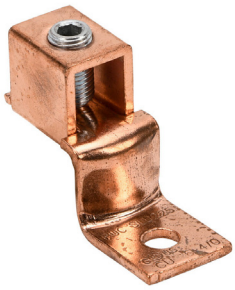
# PENNUNION™ Mechanical Connectors

## 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*** |
|  **SLU-225-1**  **LA-250-1** |  **BLU-1S-1**  **BLU-035D-1** |
| 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. |

# PENNUNION™ 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.

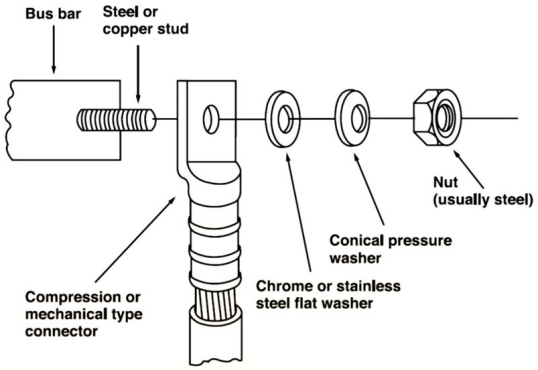



Table 1 to the right shows the recommended tightening torques for silicon bronze, stainless steel, galvanized steel, and lubricated aluminum alloy hardware.

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.

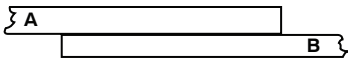
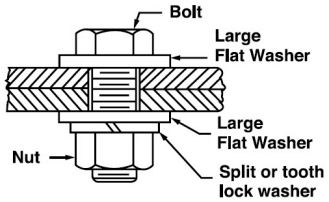
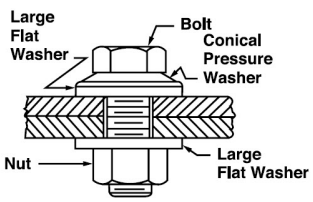



**Table 2 - Joining Bus Bar Methods**

| 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<br>(2) Stainless Steel | (1) Silicon Bronze<br>(2) Aluminum<br>(3) Stainless Steel | (1) Silicon Bronze<br>(2) Stainless Steel | (1) Aluminum<br>(2) Stainless Steel<br>(3) Silicon Bronze, Plated | (1) Aluminum<br>(2) Stainless Steel |
| Soft Drawn Bus such as EC-H13 Aluminum   | (1) Silicon Bronze<br>(2) Stainless Steel | (1) Silicon Bronze<br>(2) Aluminum<br>(3) Stainless Steel<br>(4) Conical Pressure Washer<br>(Plated or Stainless Steel) | (1) Silicon Bronze<br>(2) Stainless Steel | (1) Aluminum<br>(2) Stainless Steel<br>(3) Silicon Bronze, Plated<br>(4) Conical Pressure Washer<br>(Plated or Stainless Steel) | (1) Aluminum<br>(2) Stainless Steel<br>(3) Conical Pressure Washer<br>(Plated or Stainless Steel) |

"(1)" denotes preferred hardware usage.

# PENNUNION™ Mechanical Connectors

## Standard Barrel 1-Hole Tongue with Inspection Window Copper Compression Lugs - BLU Series

### Overview

Penn-Union compression connectors are made of the highest-grade materials and offer very high conductivity (low resistance) while meeting or exceeding all industry standards. Penn-Union compression connectors are certified to be installed using commonly found tools and do so without loss of agency certification. Penn-Union manufactures extremely dependable connectors at a low installed cost and its full line of compression connectors have a color-coding system that makes inspections and certified installations much simpler.

### Features

- Rated for use with copper conductors
- Manufactured from high conductivity seamless copper tubing
- Tin-plated to inhibit corrosion
- Beveled entry for easy cable insertion
- Inspection window to ensure full cable insertion
- Color-coded barrels are marked with die index numbers
- Connectors are suitable for voltages up to 35 kV
- Connectors are UL Listed and CSA Certified with Penn-Union, Burndy, T&B, Huskie, Greenlee and Versa-Crimp® style tooling
- Note Versa-Crimp® is a registered trademark of HUBBELL Incorporated

BLU-1S-1

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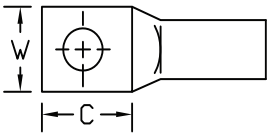
**Standard Barrel 1-Hole Tongue with Inspection Window Copper Compression Lugs - BLU Series**

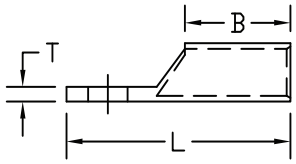
| Part Number | Price | Conductor Material and Conductor Size | Stud Size | Die Color Code | Installation Tool | Wire Strip Length | Voltage Rating | Number of Openings | Number of Mounting Holes | Qty | Material |
|---|---|---|---|---|---|---|---|---|---|---|---|
| BLU-8S14-1 | $1.50 | Copper 8 AWG | #10 | Red | TDM-250 or TDM-500 | 1/2in | 35 kV | 1 | 1 | 1 | Tin-plated copper |
| BLU-8S15-1 | $1.50 | | 1/4in | | | | | | | | |
| BLU-6S-1 | $1.50 | Copper 6 AWG | #10 | Blue | | 15/16in | | | | | |
| BLU-6S1-1 | $1.50 | | 1/4in | | | | | | | | |
| BLU-4S-1 | $2.00 | Copper 4 AWG | #10 | Gray | | | | | | | |
| BLU-4S1-1 | $2.00 | | 1/4in | | | | | | | | |
| BLU-2S-1 | $2.75 | Copper 2 AWG | 1/4in | Brown | | 1in | | | | | |
| BLU-2S1-1 | $2.75 | | 5/16in | | | | | | | | |
| BLU-1S9-1 | $2.75 | Copper 1 AWG | 1/4in | Green | | 3/4in | | | | | |
| BLU-1S-1 | $2.75 | | 5/16in | | | 1in | | | | | |
| BLU-1S1-1 | $2.75 | | 3/8in | | | 1-1/16in | | | | | |
| BLU-1/0S-1 | $3.50 | Copper 1/0 AWG | 5/16in | Pink | | 1in | | | | | |
| BLU-1/0S1-1 | $3.50 | | 3/8in | | | | | | | | |
| BLU-2/0S-21-1 | $3.75 | Copper 2/0 AWG | 5/16in | Black | | 1-1/16in | | | | | |
| BLU-2/0S-1 | $3.75 | | 3/8in | | | | | | | | |
| BLU-3/0S-1 | $4.25 | Copper 3/0 AWG | 3/8in | Orange | | 1/1/8in | | | | | |
| BLU-3/0S1-1 | $4.25 | | 1/2in | | | | | | | | |
| BLU-4/0S-1 | $4.25 | Copper 4/0 AWG | 3/8in | Purple | | | | | | | |
| BLU-4/0S1-1 | $4.25 | | 1/2in | | | | | | | | |
| BLU-025S2-1 | $8.25 | Copper 250 MCM | 3/8in | Yellow | | 1-3/16in | | | | | |
| BLU-025S-1 | $8.25 | | 1/2in | | | | | | | | |
| BLU-030S-7-1 | $10.50 | Copper 300 MCM | 3/8in | White | TDM-500 | | | | | | |
| BLU-030S-1 | $10.50 | | 1/2in | | | | | | | | |
| BLU-035S1-1 | $10.50 | Copper 350 MCM | 3/8in | Red | | 1-1/4in | | | | | |
| BLU-035S-1 | $10.50 | | 1/2in | | | | | | | | |
| BLU-040S-4-1 | $12.75 | Copper 400 MCM | 1/2in | Blue | | 1-5/16in | | | | | |
| BLU-040S-1 | $12.75 | | 5/8in | | | | | | | | |
| BLU-050S2-1 | $14.75 | Copper 500 MCM | 1/2in | Brown | | 1-1/2in | | | | | |
| BLU-050S-1 | $14.75 | | 5/8in | | | | | | | | |

# PENNUNION™ Mechanical Connectors

## Standard Barrel 1-Hole Tongue with Inspection Window Copper Compression Lugs - BLU Series

| Standard Barrel 1-Hole Tongue Copper Compression Lugs - BLU Series Dimensions | | | | | | |
|---|---|---|---|---|---|---|
| Part Number | Approximate Dimensions in [mm] | | | | | |
| | W | C | T | B | L | Drawing Link |
| BLU-8S14-1 | 0.37 [9.39] | 0.50 [12.70] | 0.08 [2.03] | 0.41 [10.41] | 1.09 [27.68] | PDF |
| BLU-8S15-1 | 0.37 [9.39] | 0.56 [14.22] | 0.08 [2.03] | 0.41 [10.41] | 1.14 [28.95] | PDF |
| BLU-6S-1 | 0.41 [10.41] | 0.53 [13.46] | 0.09 [2.28] | 0.81 [20.57] | 1.51 [38.35] | PDF |
| BLU-6S1-1 | 0.41 [10.41] | 0.69 [17.52] | 0.09 [2.28] | 0.81 [20.57] | 1.67 [42.41] | PDF |
| BLU-4S-1 | 0.48 [12.19] | 0.56 [14.22] | 0.09 [2.28] | 0.81 [20.57] | 1.61 [40.89] | PDF |
| BLU-4S1-1 | 0.48 [12.19] | 0.69 [17.52] | 0.09 [2.28] | 0.81 [20.57] | 1.67 [42.41] | PDF |
| BLU-2S-1 | 0.59 [14.98] | 0.69 [17.52] | 0.11 [2.79] | 0.88 [22.35] | 1.73 [43.94] | PDF |
| BLU-2S1-1 | 0.59 [14.98] | 0.75 [19.05] | 0.11 [2.79] | 0.88 [22.35] | 1.86 [47.24] | PDF |
| BLU-1S9-1 | 0.67 [17.01] | 0.56 [14.22] | 0.11 [2.79] | 0.62 [15.74] | 1.42 [36.06] | PDF |
| BLU-1S-1 | 0.67 [17.01] | 0.75 [19.05 | 0.11 [2.79] | 0.88 [22.35] | 1.86 [47.24] | PDF |
| BLU-1S1-1 | 0.67 [17.01] | 0.87 [22.09] | 0.11 [2.79] | 0.94 [23.87] | 2.05 [52.07] | PDF |
| BLU-1/0S-1 | 0.73 [18.54] | 0.87 [22.09] | 0.12 [3.04] | 0.88 [22.35] | 2.05 [52.07] | PDF |
| BLU-1/0S1-1 | 0.73 [18.54] | 0.87 [22.09] | 0.12 [3.04] | 0.88 [22.35] | 2.05 [52.07] | PDF |
| BLU-2/0S-21-1 | 0.81 [20.57] | 0.81 [20.57] | 0.12 [3.04] | 0.94 [23.87] | 2.06 [52.32] | PDF |
| BLU-2/0S-1 | 0.81 [20.57] | 0.87 [22.09] | 0.12 [3.04] | 0.94 [23.87] | 2.11 [53.59] | PDF |
| BLU-3/0S-1 | 0.89 [22.60] | 0.87 [22.09] | 0.12 [3.04] | 1.00 [25.4] | 2.25 [57.15] | PDF |
| BLU-3/0S1-1 | 0.89 [22.60] | 1.12 [28.44] | 0.12 [3.04] | 1.00 [25.4] | 2.50 [63.5] | PDF |
| BLU-4/0S-1 | 1.00 [25.4] | 0.87 [22.09] | 0.14 [3.55] | 1.00 [25.4] | 2.31 [58.67] | PDF |
| BLU-4/0S1-1 | 1.00 [25.4] | 1.09 [27.68] | 0.14 [3.55] | 1.00 [25.4] | 2.50 [63.5] | PDF |
| BLU-025S2-1 | 1.09 [27.68] | 1.13 [28.70] | 0.15 [3.81] | 1.06 [26.92] | 2.69 [68.32] | PDF |
| BLU-025S-1 | 1.09 [27.68] | 1.13 [28.70] | 0.15 [3.81] | 1.06 [26.92 | 2.69 [68.32] | PDF |
| BLU-030S-7-1 | 1.19 [30.22] | 1.09 [27.68] | 0.16 [4.06] | 1.06 [26.92 | 2.5 [63.5] | PDF |
| BLU-030S-1 | 1.19 [30.22] | 1.09 [27.68] | 0.16 [4.06] | 1.06 [26.92 | 2.75 [69.85] | PDF |
| BLU-035S1-1 | 1.28 [32.51] | 0.88 [22.35] | 0.17 [4.31] | 1.13 [28.70] | 2.63 [66.80] | PDF |
| BLU-035S-1 | 1.25 [31.75] | 1.16 [29.46] | 0.17 [4.31] | 1.13 [28.70] | 2.91 [73.91] | PDF |
| BLU-040S-4-1 | 1.39 [35.30] | 1.19 [30.22] | 0.19 [4.82] | 1.19 [30.22] | 3.06 [77.72] | PDF |
| BLU-040S-1 | 1.39 [35.30] | 1.44 [36.57] | 0.19 [4.82] | 1.13 [28.70] | 3.31 [84.07] | PDF |
| BLU-050S2-1 | 1.53 [38.86] | 1.13 [28.70] | 0.21 [5.33] | 1.38 [35.05] | 3.28 [83.31] | PDF |
| BLU-050S-1 | 1.53 [38.86] | 1.44 [36.57] | 0.21 [5.33] | 1.38 [35.05] | 3.63 [92.20] | PDF |



# PENNUNION™ Mechanical Connectors

## Standard Barrel 2-Hole Tongue with Inspection Window Copper Compression Lugs BLU Series

BLU-035D-1

## Overview

Penn-Union compression connectors are made of the highest-grade materials and offer very high conductivity (low resistance) while meeting or exceeding all industry standards. Penn-Union compression connectors are certified to be installed using commonly found tools and do so without loss of agency certification. Penn-Union manufactures extremely dependable connectors at a low installed cost and its full line of compression connectors have a color-coding system that makes inspections and certified installations much simpler.

## Features

- Rated for use with copper conductors
- Manufactured from high conductivity seamless copper tubing
- Tin-plated to inhibit corrosion
- Beveled entry for easy cable insertion
- Inspection window to ensure full cable insertion
- Color-coded barrels are marked with die index numbers
- Connectors are suitable for voltages up to 35 kV
- Connectors are UL Listed and CSA Certified with Penn-Union, Burndy, T&B, Huskie, Greenlee and Versa-Crimp® style tooling
- Note Versa-Crimp® is a registered trademark of HUBBELL Incorporated

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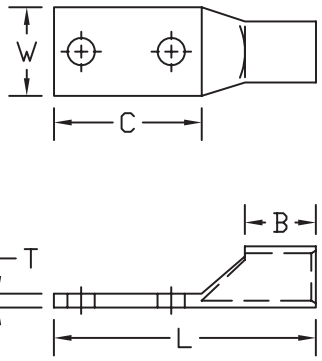
### Standard Barrel 2-Hole Tongue with Inspection Window Copper Compression Lugs - BLU Series

| Part Number | Price | Conductor Material and Conductor Size | Stud Size | Stud Hole Spacing | Die Color Code | Installation Tool | Wire Strip Length | Voltage Rating | Number of Openings | Number of Mounting Holes | Qty | Material |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BLU-8D-2TC14-1 | $4.75 | Copper 8 AWG | 1/4in | 0.63in | Red | TDM-250 or TDM-500 | 1/2in | 35 kV | 1 | 2 | 1 | Tin-plated copper |
| BLU-8D-2TC14E2-1 | $4.75 | | | 0.75in | | | | | | | | |
| BLU-6D-2TC14-1 | $5.00 | Copper 6 AWG | 1/4in | 0.63in | Blue | | 15/16in | | | | | |
| BLU-6D-2TC14E1-1 | $5.00 | | | 1.00in | | | | | | | | |
| BLU-4D-2TC14E1-1 | $5.75 | Copper 4 AWG | 1/4in | 1.00in | Gray | | | | | | | |
| BLU-4D-2TC38-1 | $5.75 | | 3/8in | 1.00in | | | | | | | | |
| BLU-2D-2TC14-1 | $6.50 | Copper 2 AWG | 1/4in | 0.63in | Brown | | 1in | | | | | |
| BLU-2D-2TC38-1 | $6.50 | | 3/8in | 1.00in | | | | | | | | |
| BLU-1D-2TC14-1 | $7.25 | Copper 1 AWG | 1/4in | 0.63in | Green | | 1-1/16in | | | | | |
| BLU-1D-2TC516E6-1 | $7.25 | | 5/16in | 0.88in | | | | | | | | |
| BLU-1/0D-2TC14-1 | $8.50 | Copper 1/0 AWG | 1/4in | 0.63in | Pink | | 1in | | | | | |
| BLU-1/0D-2TC38-1 | $8.50 | | 3/8in | 1.00in | | | | | | | | |
| BLU-1/0D2-1 | $8.50 | | 1/2in | 1.75in | | | | | | | | |
| BLU-2/0D-2TC38-1 | $9.25 | Copper 2/0 AWG | 3/8in | 1.00in | Black | | 1-1/16in | | | | | |
| BLU-2/0D-1 | $9.25 | | 1/2in | 1.75in | | | | | | | | |
| BLU-3/0D-2TC38-1 | $9.75 | Copper 3/0 AWG | 3/8in | 1.00 | Orange | | 1-1/8in | | | | | |
| BLU-3/0D-1 | $9.75 | | 1/2in | 1.75in | | | | | | | | |
| BLU-4/0D-2TC38-1 | $10.00 | Copper 4/0 AWG | 3/8in | 1.00 | Purple | | | | | | | |
| BLU-4/0D-1 | $10.00 | | 1/2in | 1.75in | | | | | | | | |
| BLU-025D-2TC38-1 | $10.50 | Copper 250 MCM | 3/8in | 1.00 | Yellow | | 1-3/16in | | | | | |
| BLU-025D-1 | $10.50 | | 1/2in | 1.75in | | | | | | | | |
| BLU-030D-2TC38-1 | $15.00 | Copper 300 MCM | 3/8in | 1.00 | White | TDM-500 | | | | | | |
| BLU-030D-1 | $15.00 | | 1/2in | 1.75in | | | | | | | | |
| BLU-035D-2TC38-1 | $16.00 | Copper 350 MCM | 3/8in | 1.00 | Red | | 1-1/4in | | | | | |
| BLU-035D-1 | $16.00 | | 1/2in | 1.75in | | | | | | | | |
| BLU-040D-2TC38-1 | $16.00 | Copper 400 MCM | 3/8in | 1.00 | Blue | | 1-5/16in | | | | | |
| BLU-040D-1 | $16.00 | | 1/2in | 1.75in | | | | | | | | |
| BLU-050D-2TC38-1 | $18.50 | Copper 500 MCM | 3/8in | 1.00 | Brown | | 1-1/2in | | | | | |
| BLU-050D-1 | $18.50 | | 1/2in | 1.75in | | | | | | | | |

# PENNUNION™ Mechanical Connectors

## Standard Barrel 2-Hole Tongue with Inspection Window Copper Compression Lugs - BLU Series

| Standard Barrel 2-Hole Tongue Copper Compression Lugs - BLU Series Dimensions | | | | | | |
|---|---|---|---|---|---|---|
| Part Number | Approximate Dimensions in [mm] | | | | | |
| | W | C | T | B | L | Drawing Link |
| BLU-8D-2TC14-1 | 0.41 [10.41] | 1.22 [30.98] | 0.08 [2.03] | 0.41 [10.41] | 1.78 [45.21] | PDF |
| BLU-8D-2TC14E2-1 | 0.41 [10.41] | 1.36 [34.54] | 0.08 [2.03] | 0.41 [10.41] | 1.88 [47.75] | PDF |
| BLU-6D-2TC14-1 | 0.41 [10.41] | 1.22 [30.98] | 0.09 [2.28] | 0.81 [20.57] | 2.25 [57.15] | PDF |
| BLU-6D-2TC14E1-1 | 0.41 [10.41] | 1.61 [40.89] | 0.09 [2.28] | 0.81 [20.57] | 2.67 [67.81] | PDF |
| BLU-4D-2TC14E1-1 | 0.50 [12.70] | 1.61 [40.89] | 0.09 [2.28] | 0.81 [20.57] | 2.68 [68.07] | PDF |
| BLU-4D-2TC38-1 | 0.61 [15.49] | 1.81 [45.97] | 0.08 [2.03] | 0.81 [20.57] | 2.87 [72.89] | PDF |
| BLU-2D-2TC14-1 | 0.59 [14.98] | 1.22 [30.98] | 0.11 [2.79] | 0.88 [22.35] | 2.32 [58.92] | PDF |
| BLU-2D-2TC38-1 | 0.59 [14.98] | 1.83 [46.48] | 0.11 [2.79] | 0.88 [22.35] | 2.96 [75.18] | PDF |
| BLU-1D-2TC14-1 | 0.67 [17.01] | 1.22 [30.98] | 0.10 [2.54] | 0.94 [23.87] | 2.41 [61.21] | PDF |
| BLU-1D-2TC516E6-1 | 0.67 [17.01] | 1.62 [41.14] | 0.10 [2.54] | 0.94 [23.87] | 2.79 [70.86] | PDF |
| BLU-1/0D-2TC14-1 | 0.74 [18.79] | 1.22 [30.98] | 0.11 [2.79] | 0.88 [22.35] | 2.44 [61.97] | PDF |
| BLU-1/0D-2TC38-1 | 0.74 [18.79] | 1.83 [46.48] | 0.11 [2.79] | 0.88 [22.35] | 3.02 [76.70] | PDF |
| BLU-1/0D2-1 | 0.82 [20.82] | 2.82 [71.62] | 0.10 [2.54] | 0.89 [22.60] | 3.98 [101.09] | PDF |
| BLU-2/0D-2TC38-1 | 0.82 [20.82] | 1.83 [46.48] | 0.12 [3.04] | 0.94 [23.87] | 3.08 [78.23] | PDF |
| BLU-2/0D-1 | 0.82 [20.82] | 2.88 [73.15] | 0.12 [3.04] | 0.94 [23.87] | 4.13 [104.90] | PDF |
| BLU-3/0D-2TC38-1 | 0.89 [22.60] | 1.83 [46.48] | 0.13 [3.30] | 1.00 [25.40] | 3.24 [82.29] | PDF |
| BLU-3/0D-1 | 0.89 [22.60] | 2.88 [73.15] | 0.13 [3.30] | 1.00 [25.40] | 4.25 [107.95] | PDF |
| BLU-4/0D-2TC38-1 | 1.00 [25.40] | 1.83 [46.48] | 0.14 [3.55] | 1.00 [25.40] | 3.30 [83.82] | PDF |
| BLU-4/0D-1 | 1.00 [25.40] | 2.88 [73.15] | 0.14 [3.55] | 1.00 [25.40] | 4.31 [109.47] | PDF |
| BLU-025D-2TC38-1 | 1.09 [27.68] | 1.83 [46.48] | 0.16 [4.06] | 1.06 [26.92] | 3.43 [87.12] | PDF |
| BLU-025D-1 | 1.09 [27.68] | 2.88 [73.15] | 0.16 [4.06] | 1.06 [26.92] | 4.44 [112.77] | PDF |
| BLU-030D-2TC38-1 | 1.19 [30.22] | 1.83 [46.48] | 0.16 [4.06] | 1.06 [26.92] | 3.50 [88.90] | PDF |
| BLU-030D-1 | 1.19 [30.22] | 2.88 [73.15] | 0.16 [4.06] | 1.06 [26.92] | 4.50 [114.30] | PDF |
| BLU-035D-2TC38-1 | 1.28 [32.51] | 1.83 [46.48] | 0.17 [4.31] | 1.13 [28.70] | 3.61 [91.69] | PDF |
| BLU-035D-1 | 1.28 [32.51] | 2.88 [73.15] | 0.17 [4.31] | 1.13 [28.70] | 4.63 [117.60] | PDF |
| BLU-040D-2TC38-1 | 1.39 [35.30] | 1.83 [46.48] | 0.19 [4.82] | 1.19 [30.22] | 3.74 [94.99] | PDF |
| BLU-040D-1 | 1.39 [35.30] | 2.88 [73.15] | 0.19 [4.82] | 1.19 [30.22] | 4.75 [120.65] | PDF |
| BLU-050D-2TC38-1 | 1.53 [38.86] | 1.83 [46.48] | 0.21 [5.33] | 1.38 [35.05] | 3.99 [101.34] | PDF |
| BLU-050D-1 | 1.53 [38.86] | 2.88 [73.15] | 0.21 [5.33] | 1.38 [35.05] | 5.00 -127.00] | PDF |



# PENNUNION™ Mechanical Connectors

## Hand-Operated Crimp Tools

### Overview

The hand-operated crimp tools are designed for easy use especially in confined spaces and bench top use. The unique telescopic handle design (TDM) provides increased leverage when needed. The TDM series crimp tools are designed to make the perfect crimp every time using the BLU series compression lugs.

### Features

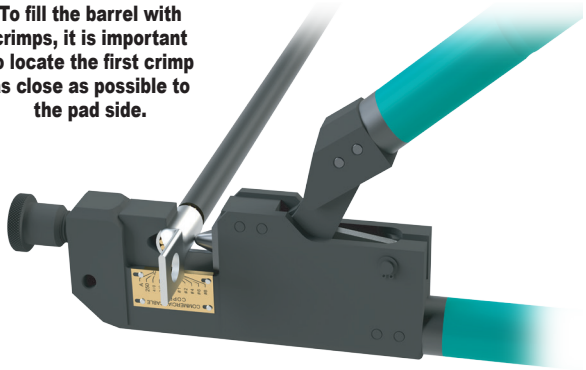
- Dieless - no dies to buy or lose
- Compression connectors are UL listed and CSA certified when installed in accordance with manufacturer's installation instructions
- Quality durable steel
- Easily adjustable tool settings
- Easy-to-read settings are provided on calibrated index plates, one for AL and one for CU, located on the side of the tool
- Small head is convenient in confined areas


TDM-250

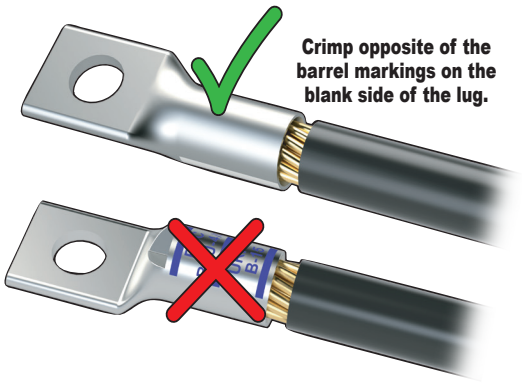
| Hand - Operated Crimp Tools | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| *Part Number* | *Price* | *Qty* | *Type* | *Crimp Profile* | *Wire Range* | *Overall Length* | *Weight* | *Material* |
| *TDM-250* | $361.25 | 1 | Telescopic handle with rubberized non-slip grip | Indent | 8 AWG-250 MCM copper and 8-4AWG aluminum | 26.0in [660mm] | 9.5 lbs | Steel |
| *TDM-500* | $506.25 | | | | 8 AWG-500 MCM copper and aluminum | 27.4in [696mm] | 9.9 lbs | |

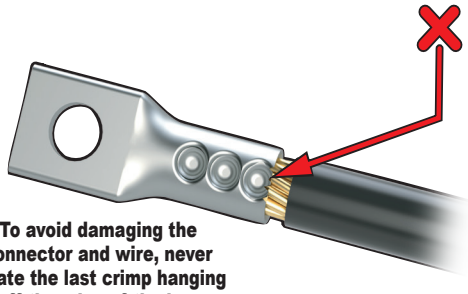
## Crimp Tools Instructions

**To fill the barrel with crimps, it is important to locate the first crimp as close as possible to the pad side.**

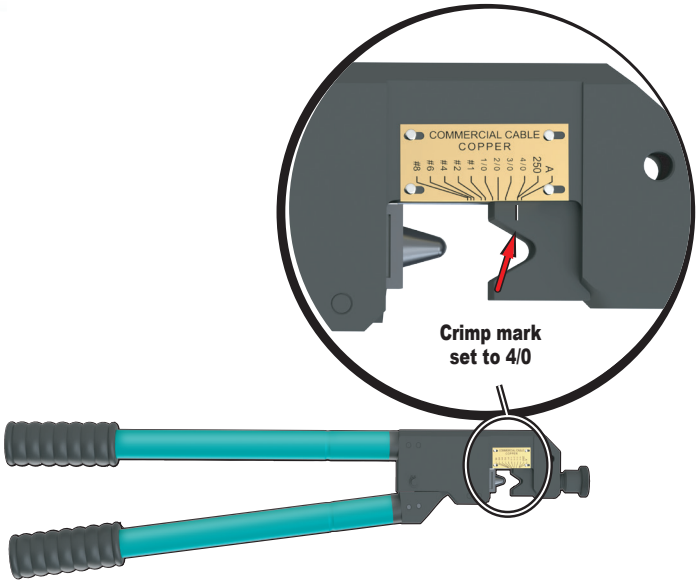


**Crimp opposite of the barrel markings on the blank side of the lug.**





**To avoid damaging the connector and wire, never locate the last crimp hanging off the edge of the lug.**



# PENNUNION™ Mechanical Connectors

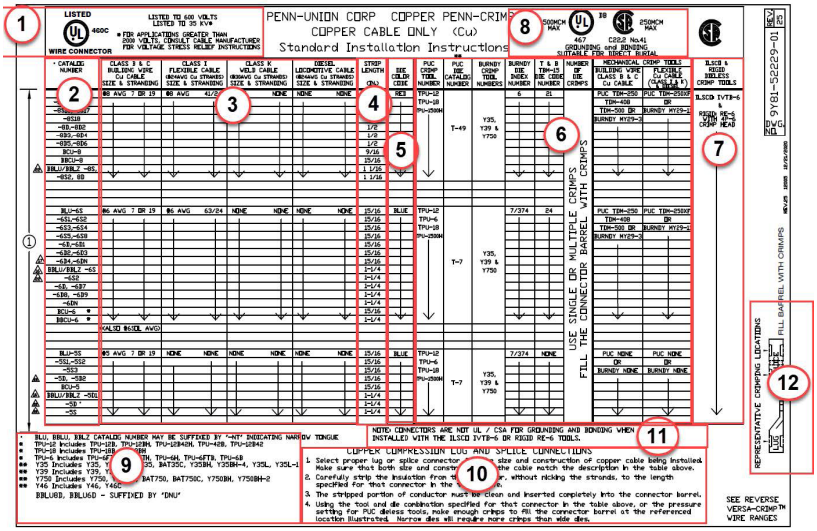
## Standard Installation Instructions for Copper Compression Lugs - BLU Series

Of all the methods used to make electrical connections, compression of the connector onto the cable with some type of compression tool is considered by most installers to be the most permanent of the common connection methods.

To maintain Underwriters Laboratories listing (UL) or Canadian Standards Association certification (CSA) for a completed compression connection, it is necessary to use the installation tools and installation methods which have been qualified for the connectors by those organizations during the listing/certification processes.

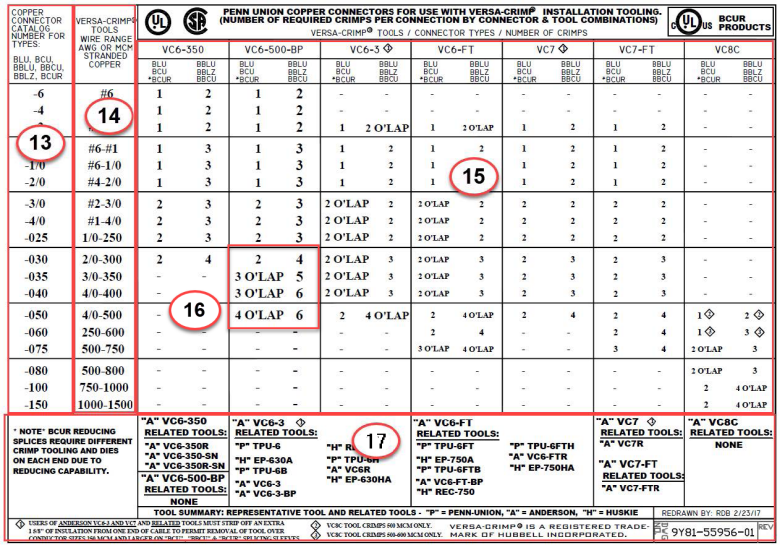
This information is supplied by Penn-Union in the form of an insert/stuffer sheet, available in the packaging of each part number.

## Information Found in the Penn-Union Inserts




| Insert Page 1 | |
|---|---|
| 1 | UL POWER rating: UL 486A, CSA C22.2 NO. 65 |
| 2 | List of part numbers covered by insert |
| 3 | List of cables that can be used with lug series |
| 4 | Stripping length per lug series |
| 5 | DIE color code (indicated on the lug) |
| 6 | Tools that retain UL power and UL/CSA Ground/Bond and Direct Burial ratings |
| 7 | Tools that retain UL Power ratings only |
| 8 | UL/CSA Grounding and Bonding and Direct Burial: UL 467, CSA C22.2 NO.41 |
| 9 | List of additional related crimping tools |
| 10 | Instructions on how to crimp the connector |
| 11 | Note: Connectors are not UL/CSA for Ground and Bonding when installed with Ilsco IVTB-6 or Rigid RE-6 tools |
| 12 | Representative image of crimp locations on the connector barrel |

| Insert Page 2 | |
|---|---|
| 13 | Connector Series |
| 14 | Versa-Crimp ® tool wire range |
| 15 | List of Vesa-Crimp Tools, connector types per tool type and number of crimps |
| 16 | Number of crimps: For Example<br>2 = two crimps on the barrel<br>3 O'LAP = 3 overlapping crimps on the barrel |
| 17 | List of additional related tools |



# PENNUNION™ Mechanical Connectors

## Wire Size Recommendations for Copper Compression Lugs - BLU Series

| Copper Connector 1 & 2 Hole Lugs Size | Class B&C Building Wire CU Cable Size & Stranding | Class I Weld Cable (#24 AWG CU Strands) Size & Stranding | Class K Weld Cable (#30 AWG CU Strands) Size & Stranding | Diesel Locomotive Cable (#24 AWG CU Strands) Size & Stranding | Class H Cable (NO. & DIA. of Wire) Size & Stranding | Class G Cable (NO. & DIA. of Wire) Size & Stranding | Class M Flexible Cable (#34 AWG CU Strands) Size & Stranding | Metric Cable Wire Size Range Copper Cable Only Metric Size & Dia. | Navy Cable | Air Craft |
|---|---|---|---|---|---|---|---|---|---|---|
| 8 AWG | #8 AWG<br>7 or 19 | #8 AWG<br>41 / 24 | None | None | #8 AWG<br>133 / 0.0111 | #8 AWG<br>49 / 0.0184 | #8 AWG<br>420 / 34 | $6mm^2$<br>3.21mm | #23 | AN-8 |
| 6 AWG | #6 AWG<br>7 or 19 | #6 AWG<br>63 / 24 | None | None | #7 AWG<br>133 / 0.0125 | #7 AWG<br>49 / 0.0206 | #7 AWG<br>532 / 34 | $10mm^2$<br>4.12mm | None | None |
| 5 AWG | #5 AWG<br>7 or 19 | None | None | None | #6 AWG<br>133 / 0.0140 | #6 AWG<br>49 / 0.0231 | #6 AWG<br>665 / 34 | $16mm^2$<br>5.18mm | #30 | AN-6 |
| 4 AWG | #4 AWG<br>7 or 19 | None | None | None | #5 AWG<br>133 / 0.0158 | #5 AWG<br>49 / 0.0260 | #5 AWG<br>836 / 34 | $20mm^2$<br>5.72mm | #40 | None |
| 3 AWG | #3 AWG<br>7 or 19 | #4 AWG<br>105 / 24 | #4 AWG<br>420 / 30 | #4 AWG<br>105 / 24 | #4 AWG<br>133 / 0.0177 | #4 AWG<br>49 / 0.0292 | #4 AWG<br>1064 / 34 | $25mm^2$<br>6.60mm | #50 | AN-4 |
| 2 AWG | #2 AWG<br>7 or 19 | None | None | None | #3 AWG<br>133 / 0.0199 | #3 AWG<br>49 / 0.0328 | #3 AWG<br>1323 / 34 | $30mm^2$<br>7.01mm | #60 | None |
| 1 AWG | #1 AWG<br>19 or 37 | #2 AWG<br>161 / 24 | #2 AWG<br>665 / 30 | #2 AWG<br>150 / 24 | #2 AWG<br>133 / 0.0223 | #2 AWG<br>49 / 0.0368 | #2 AWG<br>1666 / 34 | $40mm^2$<br>8.20mm | #75 | AN-2 |
| 1/0 AWG | #1/0 AWG<br>19 or 37 | None | #1 AWG<br>836 / 30 | #1 AWG<br>225 / 24 | #1 AWG<br>259 / 0.0180 | #1 AWG<br>133 / 0.0251 | #1 AWG<br>2107 / 34 | $50mm^2$<br>9.27mm | #100 | AN-1 |
| 2/0 AWG | #2/0 AWG<br>19 or 37 | #1/0 AWG<br>266 / 24 | #1/0 AWG<br>1064 / 30 | #1/0 AWG<br>275 / 24 | #1/0 AWG<br>259 / 0.0202 | #1/0 AWG<br>133 / 0.0282 | #1/0 AWG<br>2646 / 34 | $70mm^2$<br>10.92mm | #125 | AN-1/0 |
| 3/0 AWG | #3/0 AWG<br>19 or 37 | #2/0 AWG<br>342 / 24 | #2/0 AWG<br>1323 / 30 | #2/0 AWG<br>325 / 24 | #2/0 AWG<br>259 / 0.0227 | #2/0 AWG<br>133 / 0.0316 | None | $85mm^2$<br>11.94mm | #150 | None |
| 4/0 AWG | #4/0 AWG<br>19 or 37 | None | #3/0 AWG<br>1666 / 30 | #3/0 AWG<br>450 / 24 | #3/0 AWG<br>259 / 0.0255 | #3/0 AWG<br>133 / 0.0355 | #2/0 AWG<br>3325 / 34 | $95mm^2$<br>12.8mm | #200 | AN 2/0 |
| 250 MCM | 250 MCM<br>37 or 61 | None | None | None | None | None | #3/0 AWG<br>4256 / 34 | $120mm^2$<br>14.4mm | None | None |
| 350 MCM | 350 MCM<br>37 or 61 | None | None | 262 MCM<br>650 / 24 | 250 MCM<br>427 / 0.0242 | 250 MCM<br>259 / 0.0311 | None | $180mm^2$<br>17.42mm | #350 | None |
| 400 MCM | 400 MCM<br>37 or 61 | None | None | 313 MCM<br>775 / 24 | 300 MCM<br>427 / 0.0265 | 250 MCM<br>259 / 0.0340 | 250 MCM<br>6384 /34 | $185mm^2$<br>17.80mm | #4000 | None |
| 500 MCM | 500 MCM<br>37 or 61 | 350 MCM<br>882 / 24 | None | 373 MCM<br>925 / 24 | 400 MCM<br>427 / 0.0306 | 400 MCM<br>259 / 0.0393 | 350 MCM<br>8806 /34 | $240mm^2$<br>20.30mm | None | None |