



NOTE

All numerical values are in metric units [with U.S. customary units in brackets]. Dimensions are in millimeters [and inches]. Unless otherwise specified, dimensions have a tolerance of ± 0.13 [$\pm .005$] and angles have a tolerance of $\pm 2^\circ$. Figures and illustrations are for identification only and are not drawn to scale.

1. INTRODUCTION

This specification covers the requirements for application of LUMAWISE Power Input Terminal Block (TB). The LUMAWISE TB typical application is for outdoor area and roadway luminaires requiring the use of a closed back terminal block as defined within the ANSI C136.14 specification. This terminal block allows for three input wires (14-6AWG) to be clamped with a screw clamp and allow current to flow to three separate output wires (18-12AWG) for each polarity. The output wires are inserted by articulating a lever on a single polarity that will allow the three output wires, at the designed strip length, to be inserted and clamped in place after closing the lever.

When corresponding with personnel, use the terminology provided in this specification to facilitate inquiries for information. Basic terms and features of this product are provided in Figure 1.

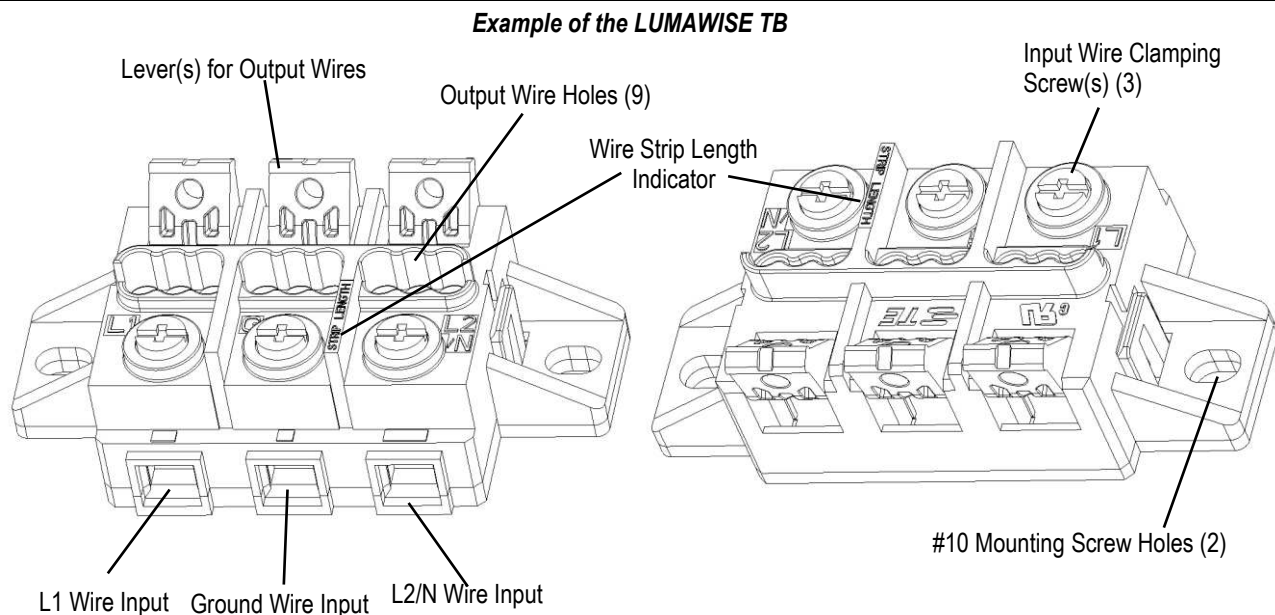


Figure 1

2. REFERENCE MATERIAL

2.1. Revision Summary

Update section 3.2.

2.2. Customer Assistance

Reference Product Base Part Number 2382635 and Product Code L836 are representative of LUMAWISE TB. Use of these numbers will identify the product line and help you to obtain product and tooling information when visiting www.te.com or calling the number at the bottom of page 1.

2.3. Drawings

Customer drawings for product part numbers are available from www.te.com. Information contained in the customer drawing takes priority.

2.4. Specifications

Product Specification 108-160129 provides expected product performance and test information.

3. REQUIREMENTS

3.1. Safety

Do not stack product shipping containers so high that the containers buckle or deform.

Perform all wiring of terminal block with power turned OFF.

3.2. Limitations

The connectors are designed to operate in a typical temperature range of -40° to 105°C [-40° to 221°F].

3.3. Material

The housing and levers are made of UL 94V-0 rated thermoplastic. The current carrying contacts are made of tin-plated copper alloy. The output wire retention springs are made of stainless steel. The wire clamping screw and clamp assembly are plated steel.

3.4. Storage

A. Shelf Life

The product should remain in the shipping containers until ready for use to prevent deformation to components. The product should be used on a first in, first out basis to avoid storage contamination that could adversely affect performance.

B. Chemical Exposure

Do not store product near any chemical listed below as they may cause stress corrosion cracking in the material.

Alkalis	Ammonia	Citrates	Phosphates	Citrates	Sulfur Compounds
Amines	Carbonates	Nitrites	Sulfur Nitrites		Tartrates

3.5. Wire Selection and Preparation

The terminal block accepts solid and stranded wire sizes 14-6 AWG (input side) and 18-12 AWG (output side). Refer to the wire selection Table 1 for additional detail for conductor type and stranding. It is recommended to use Underwriters Laboratories Inc. (UL) Appliance Wiring Material (AWM) Style 1015 or similar. The wire must be stripped within the dimensions provided in Figure 2.

Input Wire Side				Output Wire Side				
AWG	Strands	Material	Insulation O.D.	AWG	Strands	Material	Insulation O.D.	
14	19 or less	Cu	6.85mm MAX	18	16 (a)	Cu	4.05mm MAX	
14	1	Cu		18	7 or less	Cu		
12	19 or less	Cu		18	1	Cu		
12	1	Cu		16	26 or less	Cu		
10	19 or less	Cu		16	1	Cu		
10	1	Cu		14	19 or less	Cu		
8	19 or less	Cu		14	1	Cu		
8	1	Cu		12	19 or less	Cu		
6	19 or less	Cu		12	1	Cu		
6	1	Cu		Note (a): Required to be tin-dipped				

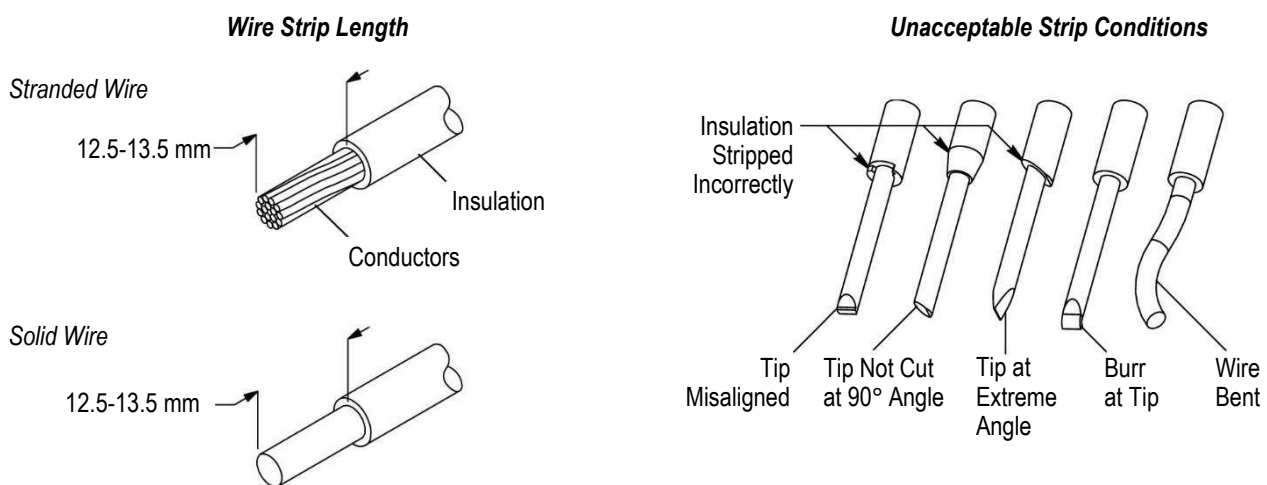
Table 1


CAUTION

Wire conductors must not be nicked, cut, or scrapped during or after the stripping operation.


NOTE

The use of higher strand count wires is possible but should be verified before use. When using and preparing stranded wires it is recommended to slightly twist (2-3 times) the strands to ensure they are tightly bundled prior to insertion.



Fused Wire Not Shown; Same Strip Length Applies

Figure 2

3.6. Customer-Supplied Mounting Screws

The mounting screws must be a #10. It is recommended using screws having a head shape as the ones given in Figure 3.

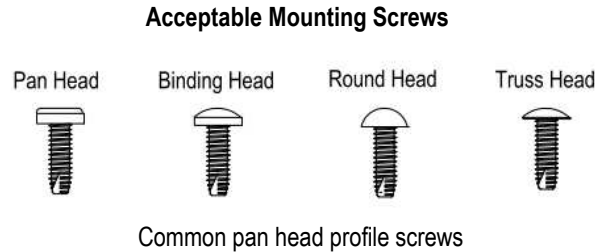


Figure 3

3.7. Fixture Pattern and Mounting Process

- A. Follow recommended mounting hole pattern as shown in Figure 4.
- B. Align the terminal block mounting holes with the hole pattern within the lighting fixture.
- C. Insert one #10 screw in each terminal block mounting hole and tighten to a torque value of 1.0N-m to 2.0N-m.



CAUTION: Ensure that the screws are secured at the recommended torque value to prevent any damage to the part.

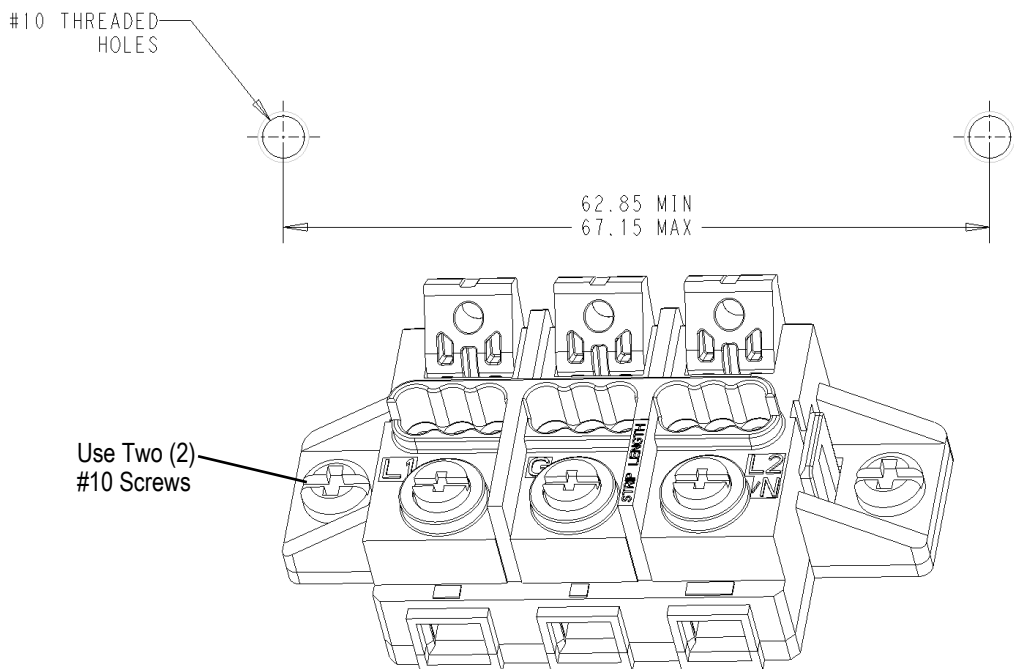


Figure 4

3.8. Output Wire Insertion Process

- A. Rotate the lever down to open the corresponding three output wire holes per polarity. The lever will remain open when fully articulated to open position, as shown in Figure 5 Detail A.
- B. Insert the stripped wire into the wire opening, as shown in Figure 5, Detail B.
- C. After the wires are fully inserted ensure that the wire insulation is fully surrounded by the housing, rotate the lever up to the closed position to secure the wires into place, as shown in Figure 5 Detail C.

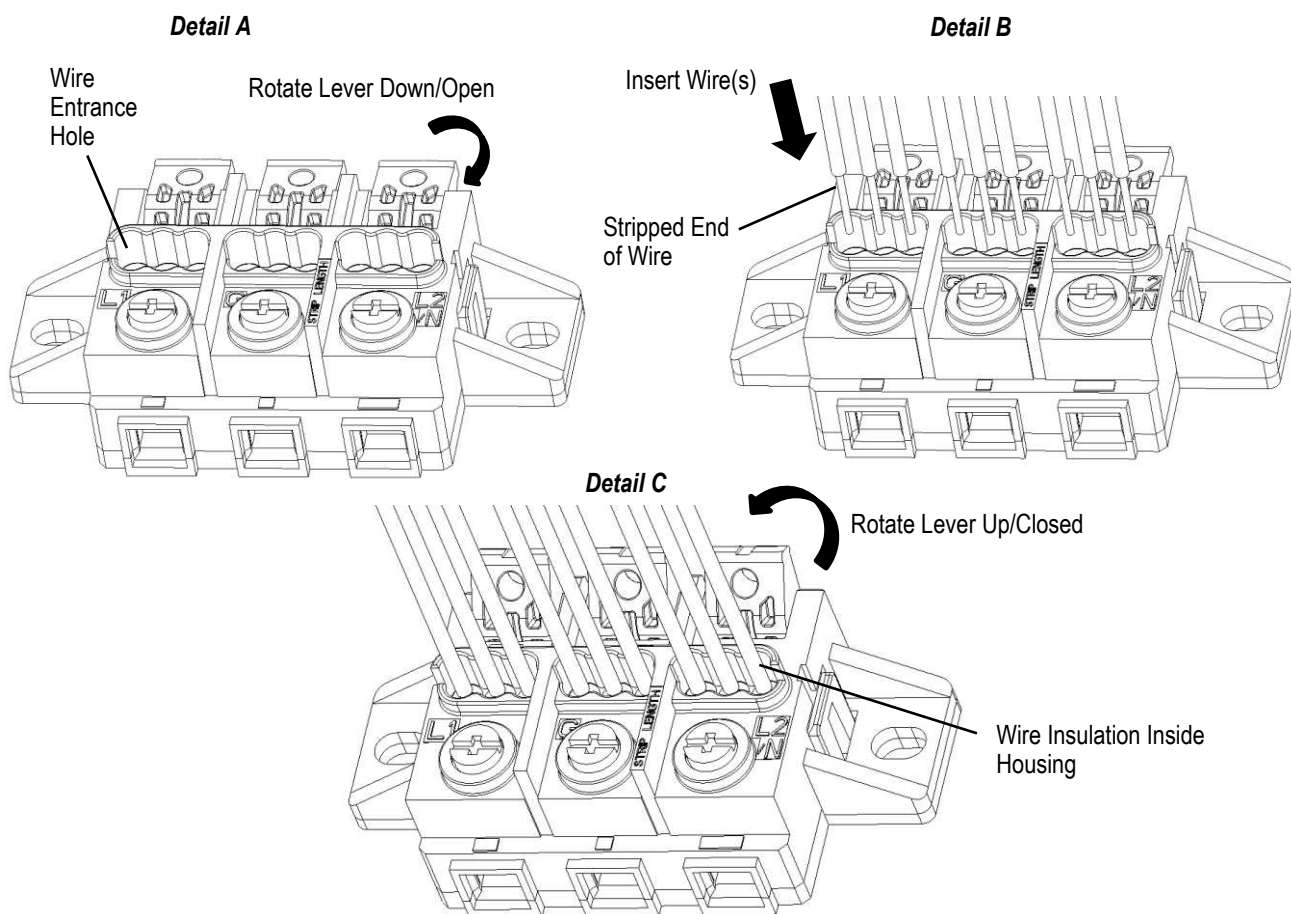


Figure 5



NOTE

After the wire has been inserted and the lever closed per 3.8.C there will be free movement. This is normal due to the deflection of the wire retention spring internal to the terminal block.

3.9. Input Wire Insertion Process

- A. Strip the wire according to section 3.3.
- B. Insert the stripped wire into the wire opening, as shown in Figure 6, Detail A.
- C. Tighten the screw down to a recommended torque value of 0.8N-m to 1.2N-m using a #2 Philips screwdriver or ¼" flat blade screwdriver. The clamping mechanism should clamp on the wire conductor and not the wire insulation.


CAUTION

Ensure that the screws are secured at the recommended torque value to prevent any damage to the part

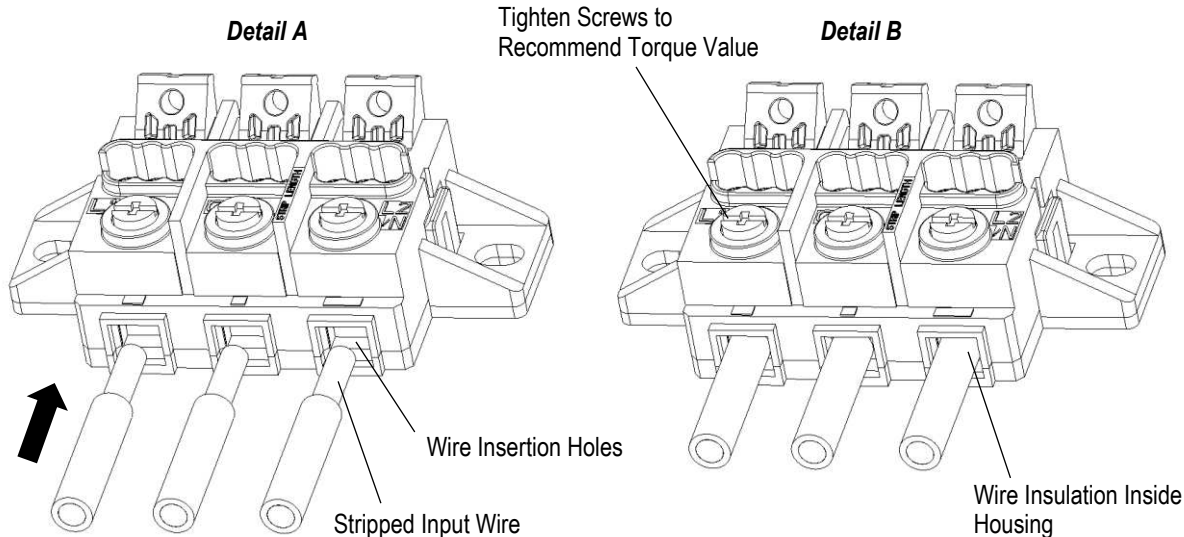


Figure 6

3.10. Wire Extraction

A fully inserted wire can be extracted from either the input or output portions of the connector.

- A. Output:** Rotate the lever down as shown in Figure 5 Detail A. Extract the wire along the axis of wire insertion direction. The wire should release from the connector with little to no resistance. For re-termination prepare a new wire per Section 3.5 and terminate per Section 3.8.
- B. Input:** Utilize an appropriate Philips or flat blade screwdriver to loosen the input wire clamping screw. It will only be necessary to loosen the screw two or three revolutions before the wire will be free to be extracted along the axis of wire insertion direction. For re-termination prepare a new wire per Section 3.5 and terminate per Section 3.9.


CAUTION

A newly stripped wire should be re-inserted into the cavity after the extraction of the existing wire. Use of the extracted wire can result in minimized wire retention values and electrical performance.

3.11. Replacement and Repair

The contacts and housing are not repairable. DO NOT use an assembly with damaged or defective contacts and/or housing. If damaged, replace the terminal block with a new one.

4. QUALIFICATION

4.1. Underwriters Laboratories Inc. (UL)

LUMAWISE TB is Component Recognized by Underwriters Laboratories Inc. (UL) in File E60677 Volume 21 and has been investigated to CSA International by UL.

5. TOOLING

No special tooling is required for the installation of this product line.

5.1 OPTIONAL TOOLING

Although not required for product usage an optional tool can be created to aid in usage. The tool can be 3D printed with dowel pins inserted to assist in the opening and closing of the output wire levers. See Figure 7.

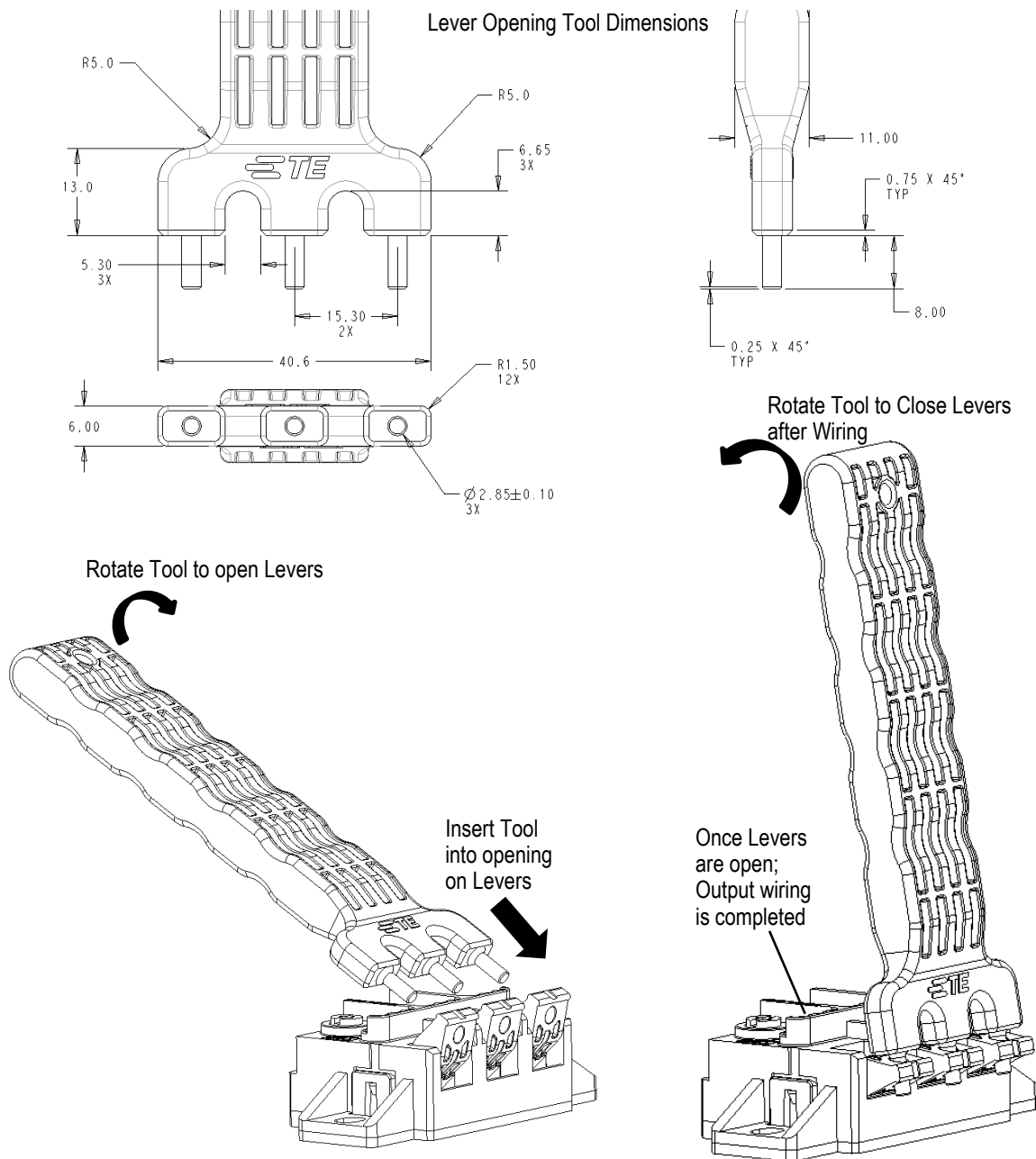


Figure 7

6. VISUAL AID

The illustration below shows a typical application of the LUMAWISE TB. This illustration should be used by production personnel to ensure a correctly applied product. Applications which do not appear correct should be inspected using the information in the preceding pages of this specification and in the instructional material shipped with the product or tooling.

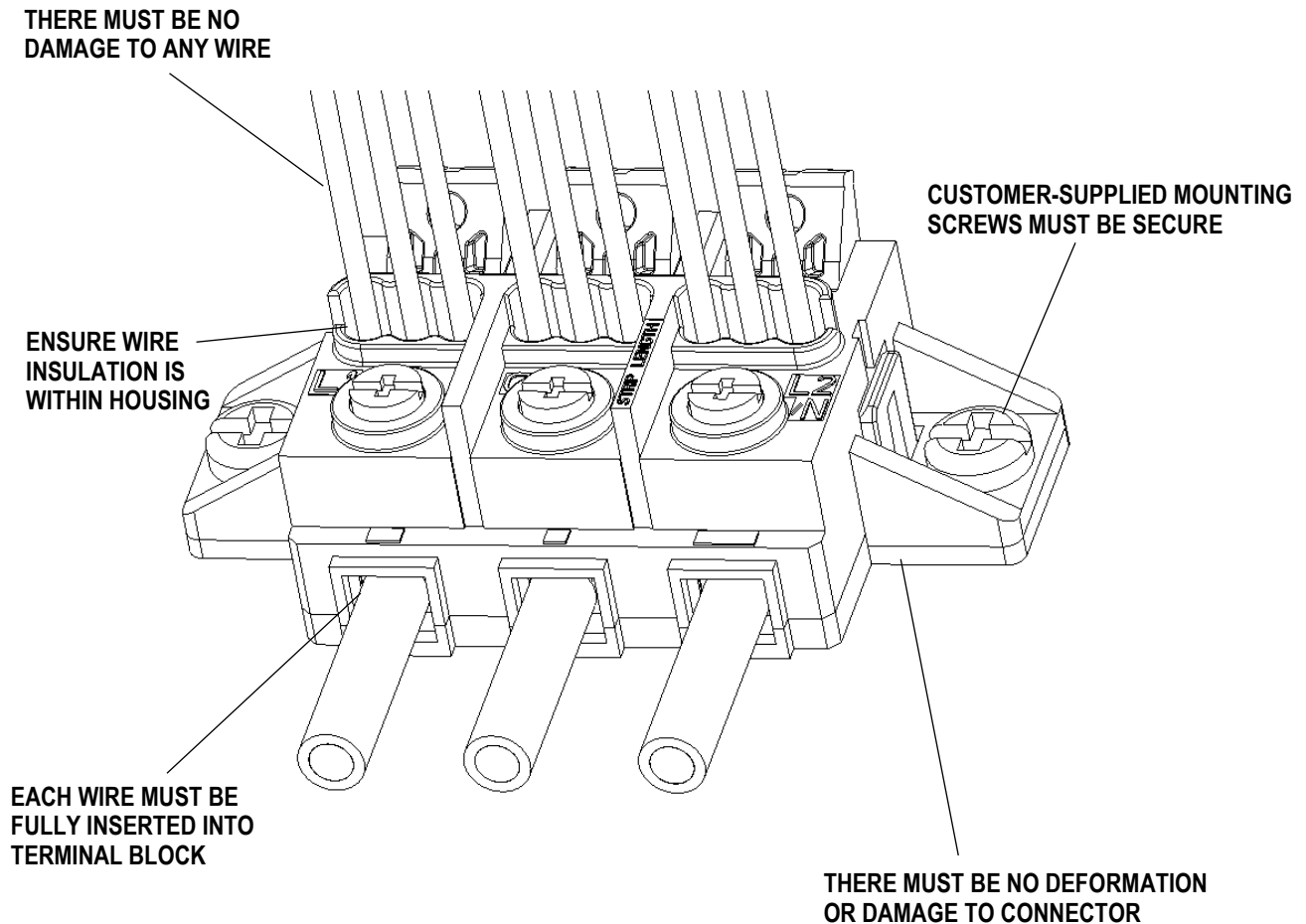


Figure 8