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 mm [±.005 in.] and angles have a tolerance of ±2°. Figures and illustrations are for identification only and are not drawn to scale.

1. INTRODUCTION

This specification covers the requirements for application of Low Profile Terminal Block Assemblies. The assembly is designed to be mounted to the chassis of a household appliance such as an electric range. The assembly consists of a housing, six hex-head screws, three clamp blocks, and an optional link. The assembly will accept ring tongue and open spade terminals sized for M6 and 10-32 screws, and will operate at 300 volts AC maximum. This assembly will also accept stripped wire without terminals.

When corresponding with TE Connectivity 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.

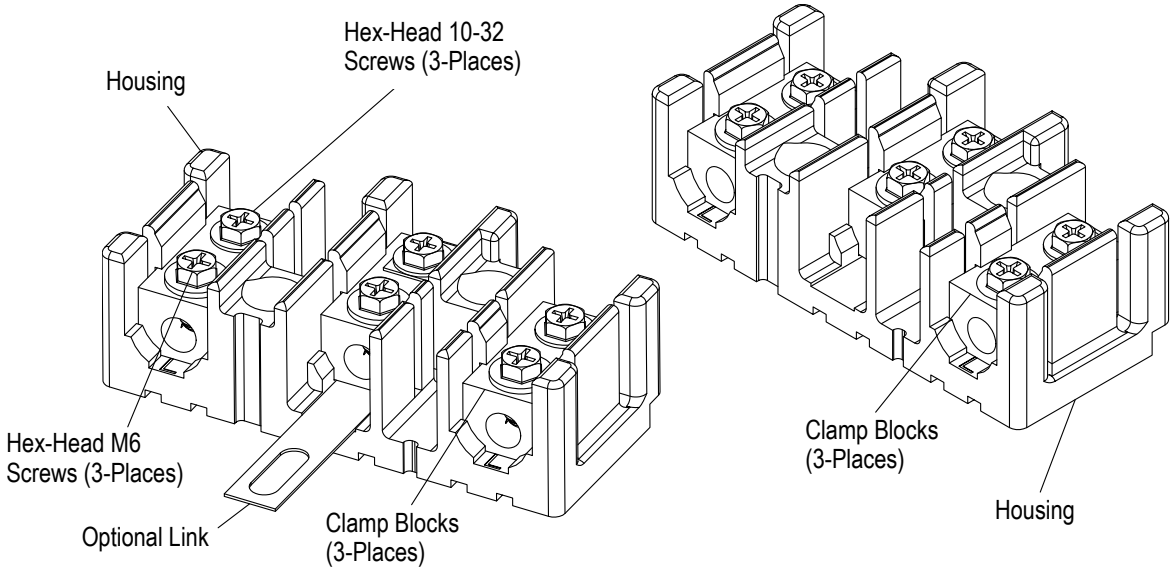

Figure 1

2. REFERENCE MATERIAL

2.1. Revision Summary

- Updated document to corporate requirements
- Changed text in Paragraph 2.2

2.2. Customer Assistance

Reference Product Base Part Number 1604532 and Product Code K042 are representative of Low Profile Terminal Block Assemblies. Use of these numbers will identify the product line and help you to obtain product and tooling information. Such information can be obtained through a local TE Representative, by visiting our website at www.te.com, or by calling PRODUCT INFORMATION or the TOOLING ASSISTANCE CENTER at the numbers at the bottom of page 1.

2.3. Drawings

Customer Drawings for product part numbers are available from the service network. If there is a conflict between the information contained in the Customer Drawings and this specification or with any other technical documentation supplied, the information contained in the Customer Drawings takes priority.

2.4. Specifications

Product Specification 108-2136 provides product performance and test information. Application Specifications 114-2084, 114-2161, and 114-2162 provide contact crimp information, termination requirements, and recommended tooling for various ring tongue and open spade terminals which may be used with these terminal block assemblies. Contact the Product Information number at the bottom of page 1 for specific relationships of terminals and the terminal block assemblies.

2.5. Standards

The following Underwriters Laboratories Inc. (UL) Standards are applicable to these terminal block assemblies:

Standard Number	Standard Title
UL 94	Tests for Flammability of Plastic Materials
UL486E	Equipment Wiring Terminals for Use with Aluminum and/or Copper Conductors
UL 817	Cord Sets and Power-Supply Cords
UL 858	Household Electrical Ranges
UL 1059	Terminal Blocks

3. REQUIREMENTS

3.1. Storage

A. Ultraviolet Light

Prolonged exposure to ultraviolet light may deteriorate the chemical composition used in the product material.

B. 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.

C. Chemical Exposure

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

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

3.2. Wire Selection and Preparation

NOTE
If using ring tongue or open spade terminals, refer to Application Specifications 114-2084, 114-2161, or 114-2162 for contact crimp information, termination requirements, and recommended tooling. If using stripped wire without terminals, refer to Paragraph 3.2.A and B and see Figure 2.

A. Wire Selection

The clamp blocks will accept stranded copper wire sizes 6 through 10 AWG, solid copper wire size 10 AWG, and compact stranded aluminum wire sizes 4 through 8 AWG. Wire insulation maximum diameters shall be 9.5 mm [.375 in.]. Aluminum wire to conform with requirements of ASTM B800.

B. Wire Preparation

The wire strip length shall be 12.7 ±1.6 mm [.500 ±.063 in.].

CAUTION
DO NOT nick, scrape, or cut the wire conductor during the stripping operation. Wire to be tarnish-free, and attached to clamp block immediately after being stripped.

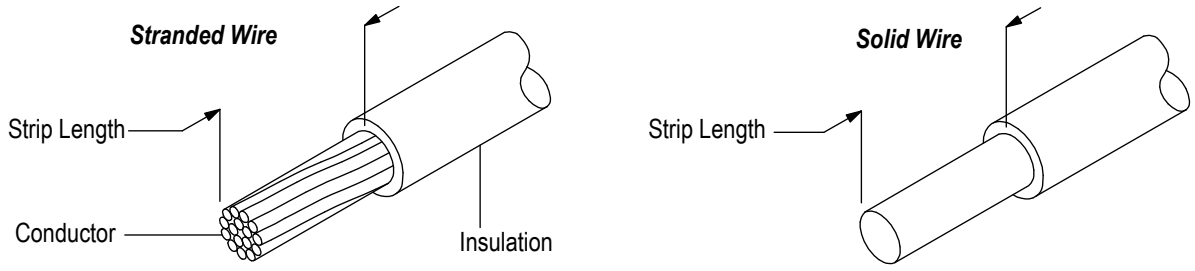

Figure 2

3.3. Housing

A. Hole Layout

The mounting plane hole layout for the two offset mounting holes and the optional link is provided in Figure 3.

NOTE
When selecting a location for the assembly, the wire bend radius specified by the wire manufacturer must be considered. Also, to permit attachment of the wire, there should be sufficient slack between the wire end and any strain relief.

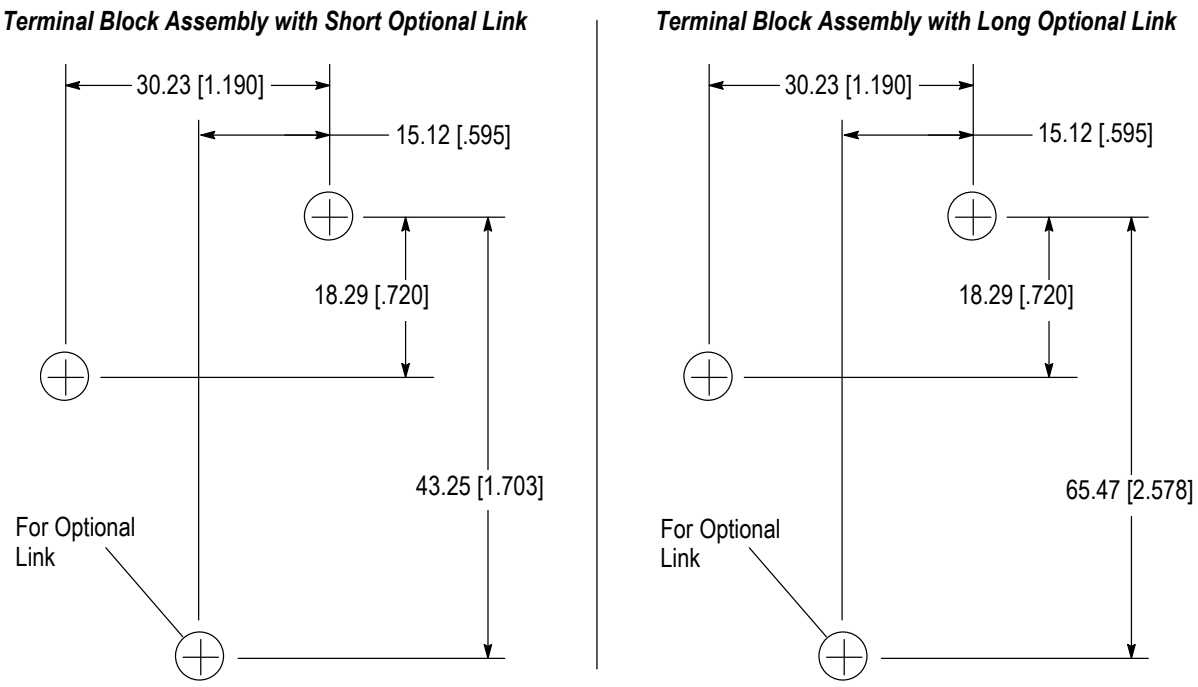

Figure 3

B. Attaching Mounting Hardware

Any commercially available hardware such as sheet-metal screws, bolts and nuts, rivets or other hardware that is compatible with the mounting plane or housing may be used to secure the assembly.

3.4. Terminal and Wire Application

The connecting wire can be attached to the terminal block assembly as bare wire or with a terminal attached. For use of terminals with the wire, refer to Application Specifications 114-2084, 114-2161, or 114-2162. See Figure 4 for terminal size limitations to be used with the Low Profile Terminal Block Assembly.

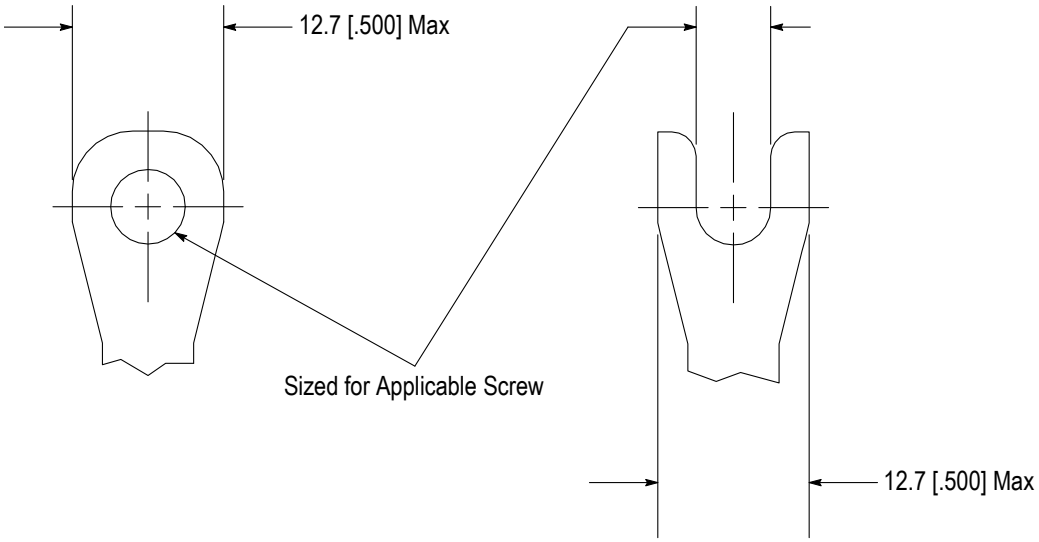

Figure 4

A. Terminals

Figure 5 provides a composite of the various termination techniques. The assembly procedures for all techniques are covered by the following procedures:

1. After the terminal has been correctly crimped to the wire, decide which clamp block is to be used.
2. Remove the clamp block hex head screw if necessary so that the crimped terminal may be placed in the correct position.
3. Once the crimped terminal has been positioned on top of the clamp block, insert the hex head screw back into the hole and tighten to 2.3 N-m [20 in.-lbs.].
4. Electrically attaching the appliance through the center/neutral position with the link is optional. Use any commercially available hardware such as sheet-metal screws, bolts and nuts, rivets or other hardware that is compatible with the mounting plane.

B. Bare Wire

1. Strip the wire to the correct length according to the dimensions given in Paragraph 3.2.B.
2. Decide which clamp block is to be used.
3. Loosen the clamp block screw to allow clearance for the wire conductors to be inserted into the hole in the front of the clamp block.
4. Insert the stripped wire until the insulation is flush with the clamp block face.
5. Once the bare wire has been positioned in the clamp block, tighten the hex head screw on top of the clamp block to 4.0 N-m [35 in.-lbs.].

NOTE
If the wire is removed, cut-off the exposed conductor, and re-strip before re-attachment.

6. Electrically attaching the appliance through the center/neutral position with the link is optional. Use any commercially available hardware such as sheet-metal screws, bolts and nuts, rivets or other hardware that is compatible with the mounting plane.

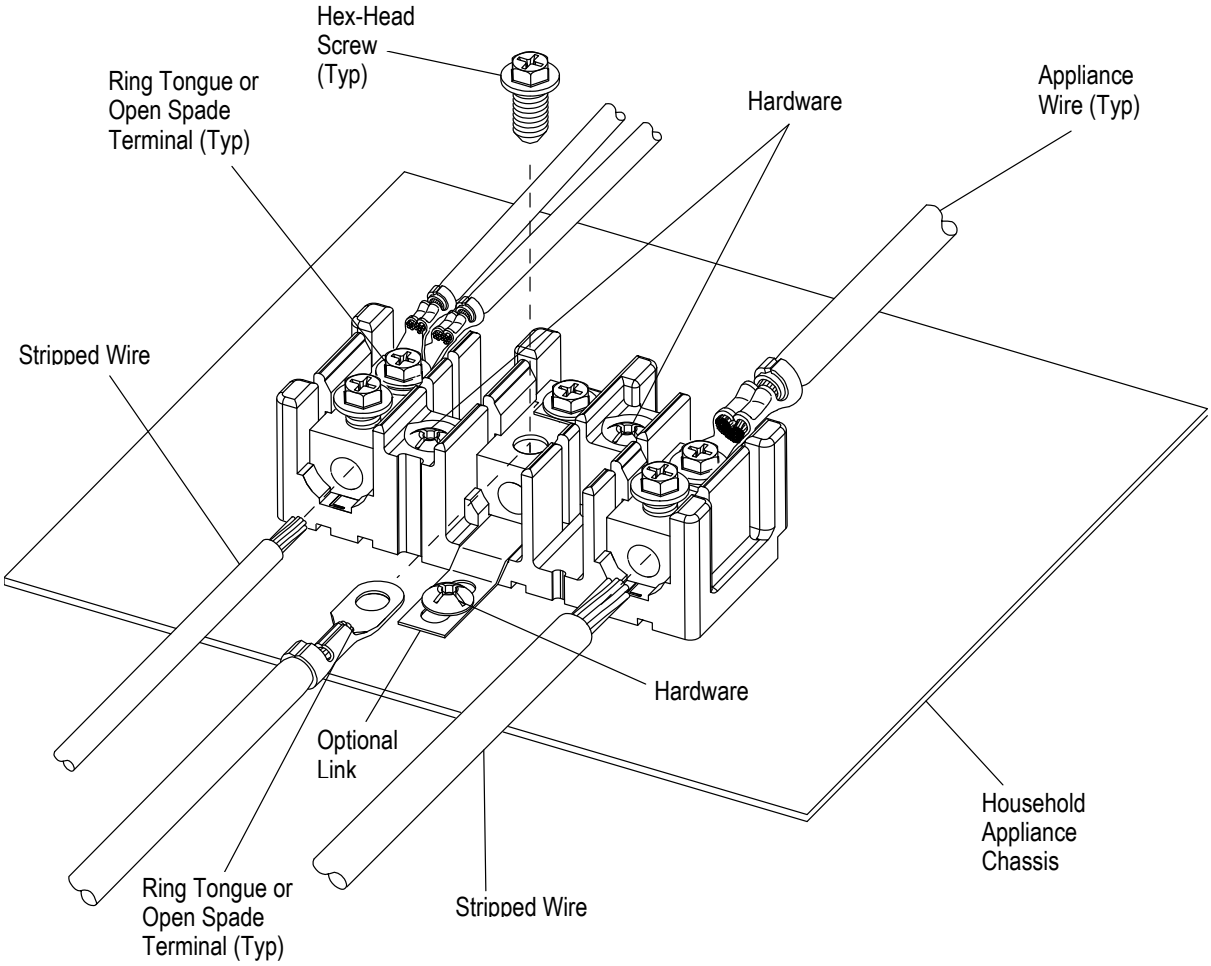

Figure 5

3.5. Checking Installed Assembly

Figure 6 shows position of screw head after tightening for largest wire size.

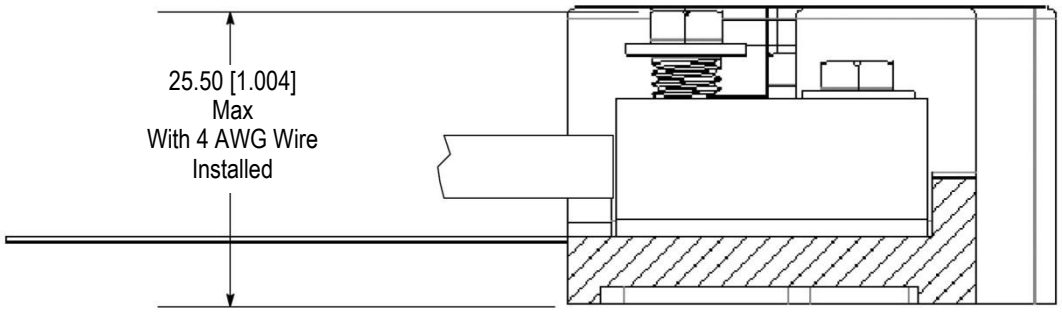

Figure 6

3.6. Repair and Replacement

CAUTION
Damaged terminals may not be used or reterminated. If a damaged terminal is evident, it must be removed and replaced with a new one.

4. QUALIFICATION

Low Profile Terminal Block Assemblies have been Recognized by Underwriters Laboratories Inc. (UL) in File E60677. These assemblies were evaluated to UL Standards 1059, 486E, and CSA International Standards C22.2 Number 158, and C22.2 Number 65.

5. TOOLING

Refer to the application specification listed in Paragraph 2.4 for termination and application tooling for the terminals.

NOTE
Torque controlled tools are to be used to ensure that hex-head screws are properly tightened according to the requirements provided in Paragraph 3.4.

6. VISUAL AID

The illustration below shows a typical application of Low Profile Terminal Block Assemblies. 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.

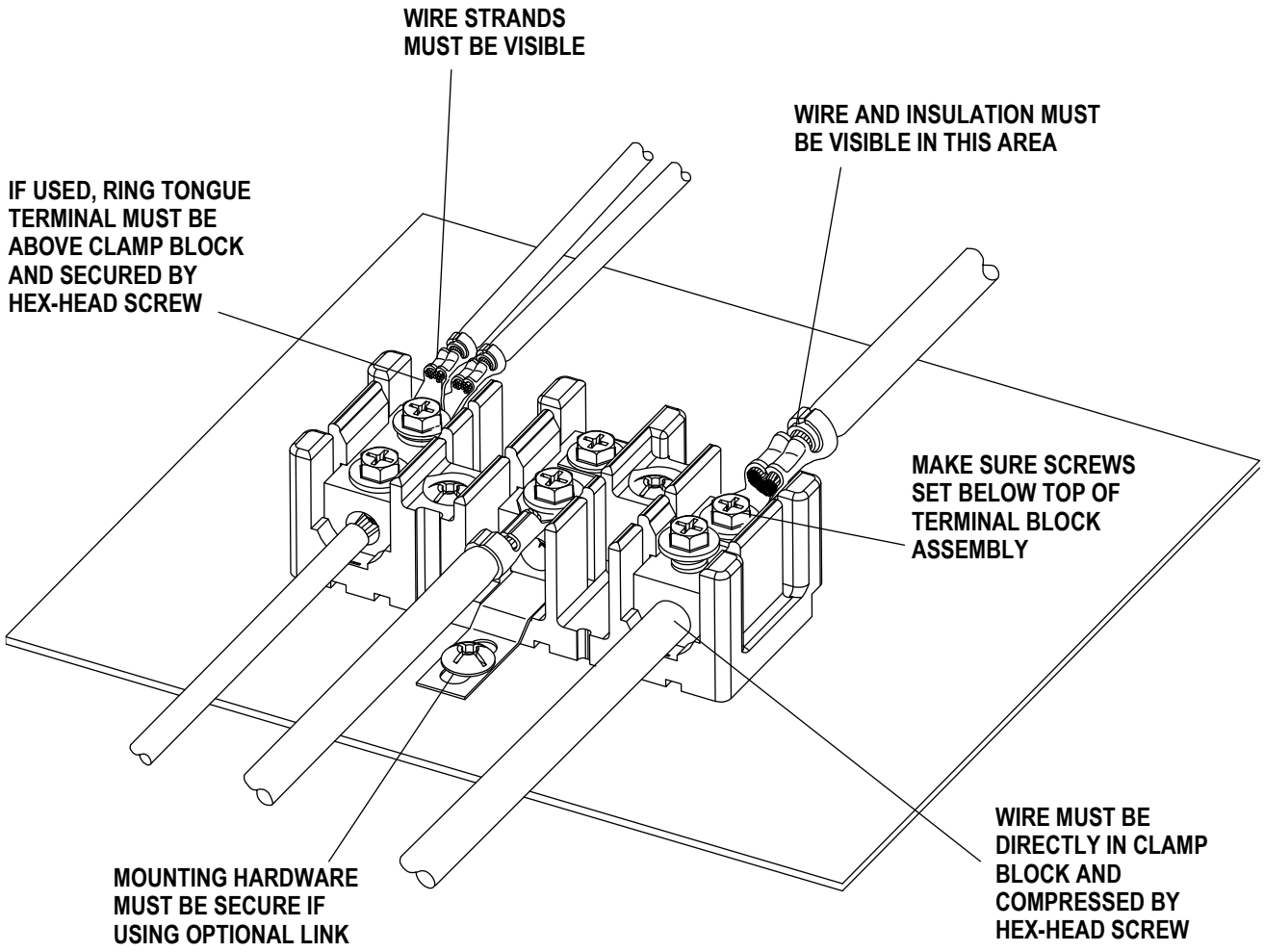

FIGURE 7. VISUAL AID