



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 8-position vertical modular jack with ACTION PIN compliant contacts onto printed circuit (pc) boards. The compliant contacts allow solderless pc board installation. The modular jacks are available in vertical (top entry), single port with 8 positions on 2.54 x 2.54 [.100 x .100] centerline spacing with 1.27 [.050] staggered pattern. These modular jacks are available in unshielded or shielded. The unshielded modular jacks can be panel mounted.

The modular jacks are shipped in protective anti-static tube or tray containers to be mounted onto the pc board using manual bench-mounted tooling.

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

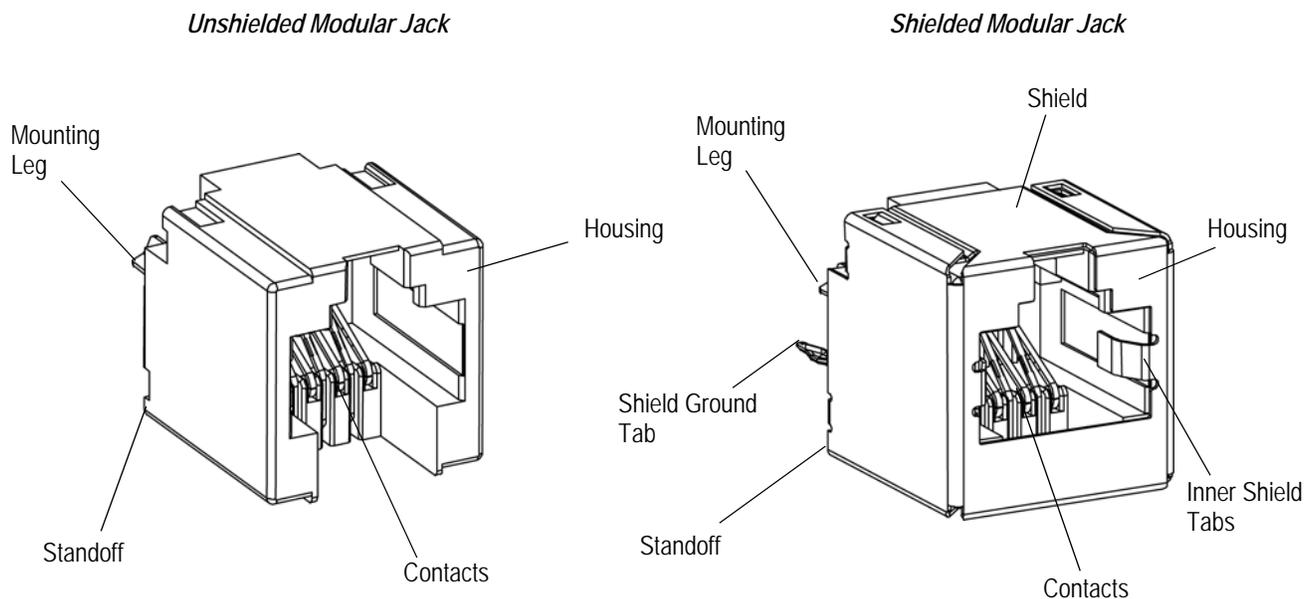


Figure 1

2. REFERENCE MATERIAL

2.1. Revision Summary

Revisions to this application specification include:

- Updated document to corporate requirements.

2.2. Customer Assistance

Reference Product Part Number 1116201 and Product Code 2240 are representative of 8-position vertical modular jack with ACTION PIN compliant contacts. Use of these numbers will identify the product line and expedite your inquiries through a service network established to help you obtain product and tooling information. Such information can be obtained through a local Representative (Field Service Engineer, Field Applications Engineer, etc.) or, after purchase, by calling PRODUCT INFO at the number at the bottom of this page.

2.3. Drawings

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

2.4. Specifications

Product Specification 108-1163-6 provides product performance and test information.

2.5. Instructional Material

Instruction Sheets (408-series) provide assembly instructions or machine setup and operation procedures. Documents available which pertain to this product are:

408-6923 Manual Arbor Frame Assembly 58024-1

3. REQUIREMENTS

3.1. Storage

A. Ultraviolet Light

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

B. Shelf Life

The modular jacks should remain in the shipping containers until ready for use to prevent deformation to the contacts. The modular jack 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 modular jacks near any chemical listed below as they may cause stress corrosion cracking in the contacts.

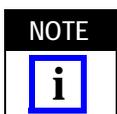
3.2. Material

The housing is made of black polyester, UL 94V-0 rated. The contacts are made of phosphor bronze with gold over nickel plated in the contact area.

3.3. PC Board

A. Material and Thickness

The pc board material shall be glass epoxy (FR-4, G-10). The minimum pc board thickness shall be 1.4 [.055].



Contact *PRODUCT INFO* at the number listed at the bottom of page 1 for suitability of other board materials and thicknesses.

B. Tolerance

The maximum bow of the pc board shall be 0.051 [.002] over the length of the modular jack.

The modular jacks can be removed up to three times without causing damage to the pc board plated through holes.

C. Hole Dimensions

The contact and shield mounting tab (if applicable) holes must be drilled and plated through, and the mounting leg hole must be drilled to recommended dimensions stated in Figure 2.

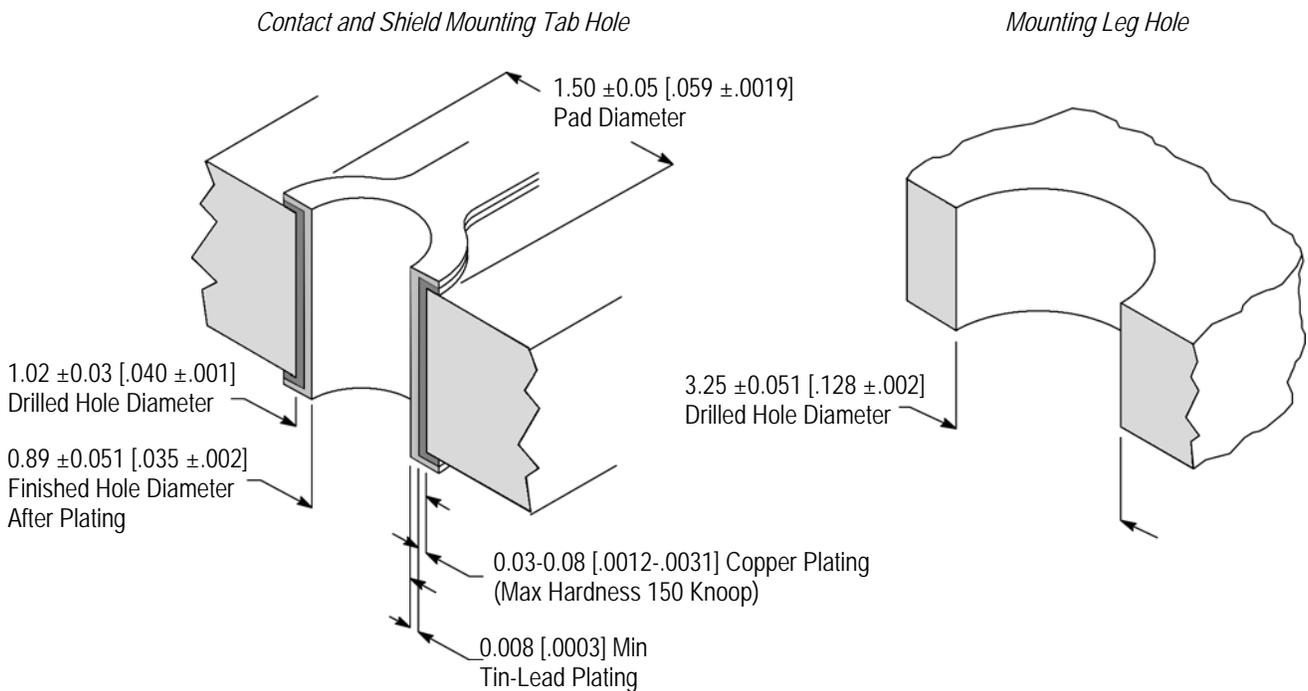


Figure 2

D. Layout

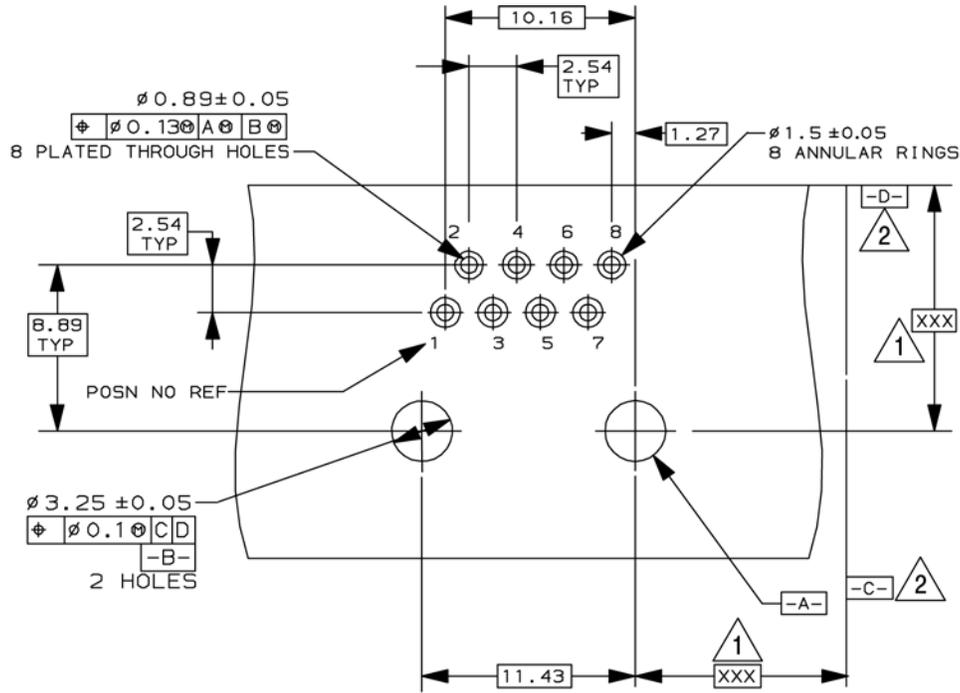
The mounting holes and contact holes in the pc board must be precisely located to ensure proper placement and optimum performance of the modular jack. The pc board layout must be designed using the dimensions provided on the customer drawing for the specific modular jack. Reference samples of the recommended pc board layouts are shown in Figure 3.



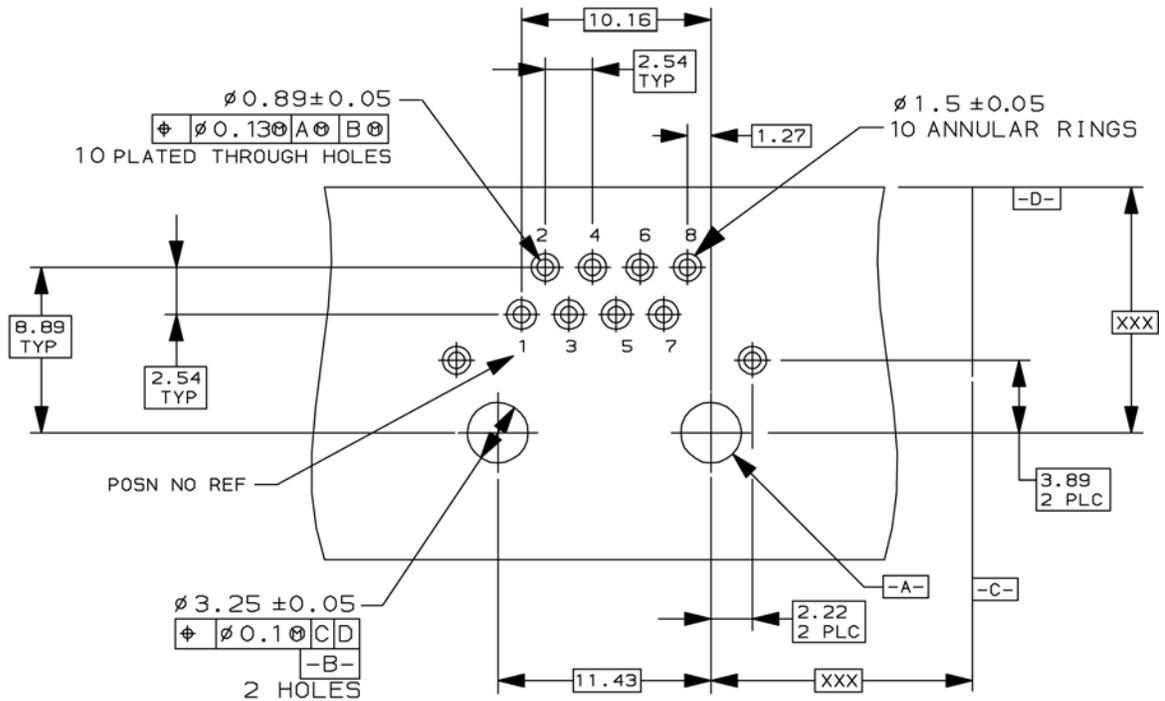
The "X" and "Y" symbols on the pc board layout represent customer established datums. They are the origin for the basic dimension (XXX and YYY datum), the point from which ALL hole positions must be located.

Sample Recommended PC Board Layouts
(Component Side Down)

Unshielded Modular Jack



Shielded Modular Jack



-  Dimensions Established by Customer
-  Datums Established by Customer

Figure 3

3.4. Spacing

There is no minimum allowable distance between modular jacks. The modular jacks can be placed against each other on the pc board. This DOES NOT consider space needed for other components. Care must be used to avoid interference between adjacent components. See Figure 4.

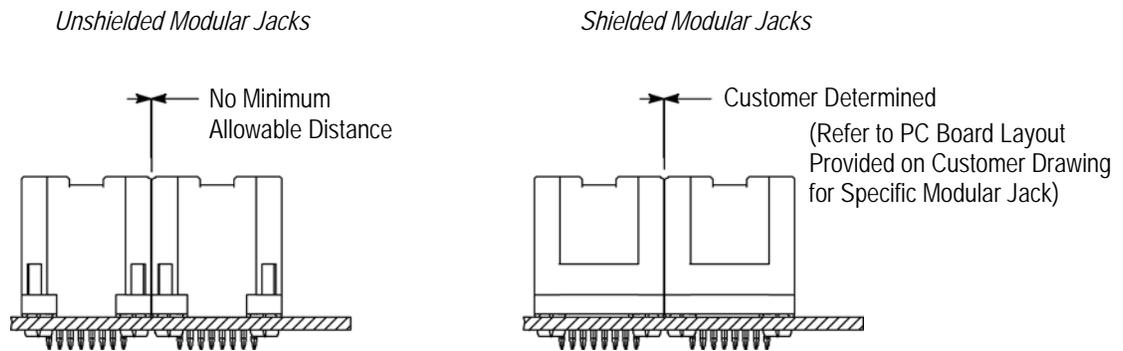


Figure 4

3.5. Alignment

The contact positions must align with the pc board layout before seating the modular jack on the pc board.

3.6. Seating Modular Jacks

A minimum insertion force of 550 N [124 lb-force] is required to seat the modular jack onto the pc board. The contacts are fully inserted when the standoffs are bottomed on the pc board and the mounting legs are secured within the pc board. See Figure 5.

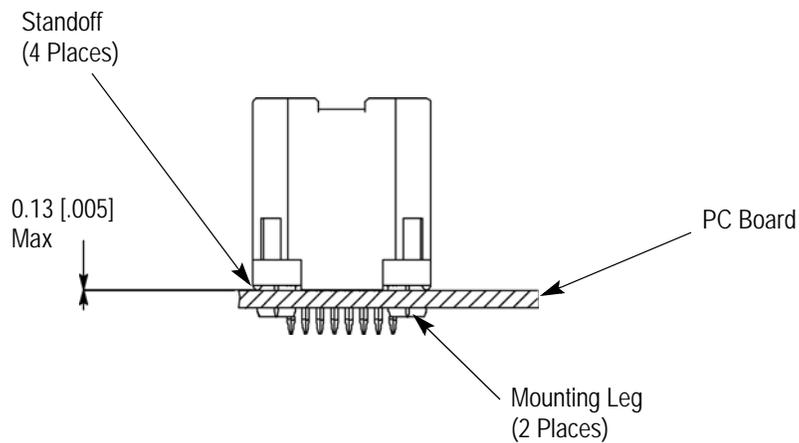


Figure 5

Sample Recommended Panel Cutouts

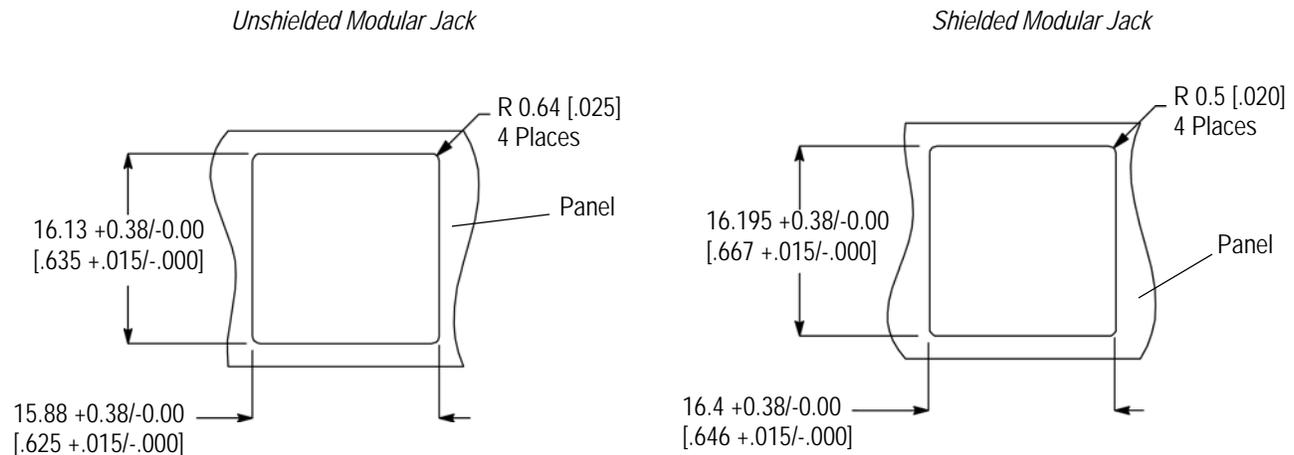


Figure 6

3.7. Repair

The modular jacks are not repairable. Damaged or defective modular jacks must be removed, discarded, and replaced. These modular jacks **MUST NOT** be re-used after removal from the pc board.

4. QUALIFICATION

These modular jacks are Listed by Underwriters Laboratories Inc. (UL) under File E 81956 and Certified by CSA International in File LR 7182.

5. TOOLING

A manual arbor frame assembly is available to provide the necessary force to drive upper and lower tooling to mount the modular jacks onto the pc board. Suitable customer-supplied upper and lower tooling must be used with the frame assembly. The frame assembly part number and instructional material packaged with the frame assembly are shown in Figure 7.



Manual Arbor Frame Assembly
Without Tooling 58024-1 (Without
Upper and Lower Tooling)
(408-6923)

Figure 7

6. VISUAL AID

The illustration below shows a typical application of an 8-position vertical modular jack. 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.

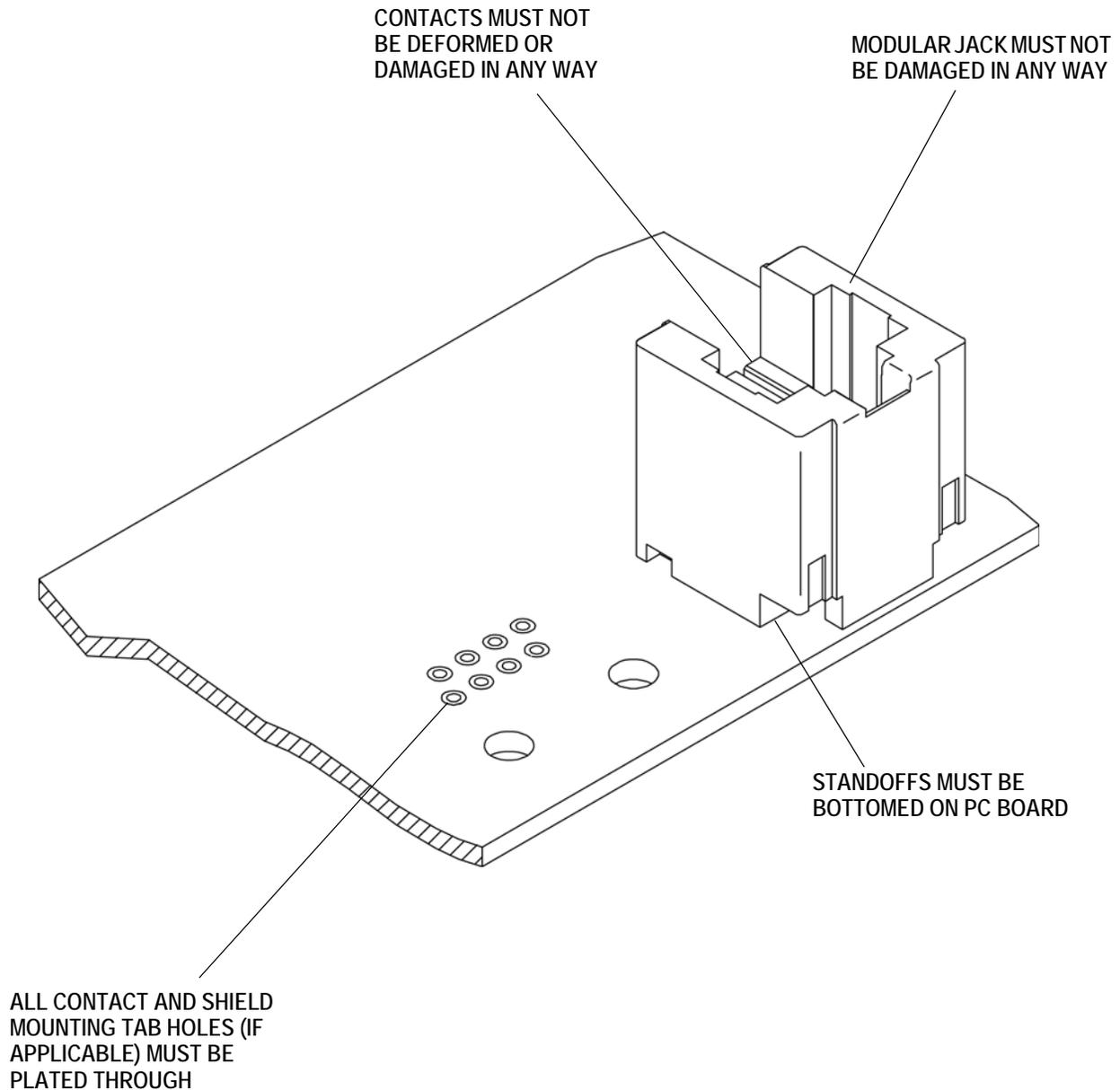


FIGURE 8. VISUAL AID